Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, OR 97301-2540
(503) 373-0050
Fax (503) 378-5518
www.lcd.state.or.us

NOTICE OF ADOPTED AMENDMENT

12/30/2013

TO: Subscribers to Notice of Adopted Plan or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: City of Toledo Plan Amendment
DLCD File Number 001-13

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. Due to the size of amended material submitted, a complete copy has not been attached. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Monday, January 13, 2014

This amendment was submitted to DLCD for review prior to adoption pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

*NOTE: The Acknowledgment or Appeal Deadline is based upon the date the decision was mailed by local government. A decision may have been mailed to you on a different date than it was mailed to DLCD. As a result, your appeal deadline may be earlier than the above date specified. NO LUBA Notification to the jurisdiction of an appeal by the deadline, this Plan Amendment is acknowledged.

Cc: Aneta Synan, City of Toledo
Gordon Howard, DLCD Urban Planning Specialist
Patrick Wingard, DLCD Regional Representative
Gary Fish, DLCD Transportation Planner

<paa> YA

DLCD FORM 2

NOTICE OF ADOPTED CHANGE TO A COMPREHENSIVE PLAN OR LAND USE REGULATION

FOR DLCD USE
File No.: 001-13 (19877) [17723]
Received: 12/23/2013

Local governments are required to send notice of an adopted change to a comprehensive plan or land use regulation **no more than 20 days after the adoption**. (*See* OAR 660-018-0040). The rules require that the notice include a completed copy of this form. **This notice form is not for submittal of a completed periodic review task or a plan amendment reviewed in the manner of periodic review.** Use Form 4 for an adopted urban growth boundary including over 50 acres by a city with a population greater than 2,500 within the UGB or an urban growth boundary amendment over 100 acres adopted by a metropolitan service district. Use Form 5 for an adopted urban reserve designation, or amendment to add over 50 acres, by a city with a population greater than 2,500 within the UGB. Use Form 6 with submittal of an adopted periodic review task.

Jurisdiction: City of Toledo

Local file no.: **PA-1-13**

Date of adoption: December 4, 201 Date sent: 12/23/2013

Was Notice of a Proposed Change (Form 1) submitted to DLCD?
☒ Yes: Date (use the date of last revision if a revised Form 1was submitted):
☐ No

Is the adopted change different from what was described in the Notice of Proposed Change? ☐ Yes ☒ No
If yes, describe how the adoption differs from the proposal:

Local contact (name and title): Aneta Synan, City Planner

Phone: 541-336-2247 E-mail: cdcplanner@cityoftoledo.org

Street address: 206 N Main Street City: Toledo Zip: 97391-

PLEASE COMPLETE ALL OF THE FOLLOWING SECTIONS THAT APPLY

For a change to comprehensive plan text:
Identify the sections of the plan that were added or amended and which statewide planning goals those sections implement, if any:

Comprehensive Land Use Plan Articles 12 and 14 were amended to adopt a Transportation System Plan. Statewide Planning Goals 2, 12, and 14

For a change to a comprehensive plan map:
Identify the former and new map designations and the area affected:

Change from to . acres. ☐ A goal exception was required for this change.
Change from to . acres. ☐ A goal exception was required for this change.
Change from to . acres. ☐ A goal exception was required for this change.
Change from to . acres. ☐ A goal exception was required for this change.

Location of affected property (T, R, Sec., TL and address): .

☐ The subject property is entirely within an urban growth boundary

☐ The subject property is partially within an urban growth boundary

If the comprehensive plan map change is a UGB amendment including less than 50 acres and/or by a city with a population less than 2,500 in the urban area, indicate the number of acres of the former rural plan designation, by type, included in the boundary.

Exclusive Farm Use – Acres: Non-resource – Acres:

Forest – Acres: Marginal Lands – Acres:

Rural Residential – Acres: Natural Resource/Coastal/Open Space – Acres:

Rural Commercial or Industrial – Acres: Other: – Acres:

If the comprehensive plan map change is an urban reserve amendment including less than 50 acres, or establishment or amendment of an urban reserve by a city with a population less than 2,500 in the urban area, indicate the number of acres, by plan designation, included in the boundary.

Exclusive Farm Use – Acres: Non-resource – Acres:

Forest – Acres: Marginal Lands – Acres:

Rural Residential – Acres: Natural Resource/Coastal/Open Space – Acres:

Rural Commercial or Industrial – Acres: Other: – Acres:

For a change to the text of an ordinance or code:
Identify the sections of the ordinance or code that were added or amended by title and number:

Toledo Comprehensive Land Use Plan (originally adopted by Ordinance 1285), Article 12 (Transportation) and Article 14 (Urbanization and Livability).

For a change to a zoning map:
Identify the former and new base zone designations and the area affected:

Change from to . Acres:

Change from to . Acres:

Change from to . Acres:

Change from to . Acres:

Identify additions to or removal from an overlay zone designation and the area affected:

Overlay zone designation: . Acres added: . Acres removed:

Location of affected property (T, R, Sec., TL and address):

List affected state or federal agencies, local governments and special districts: Lincoln County, Port of Toledo, ODOT, DLCD

Identify supplemental information that is included because it may be useful to inform DLCD or members of the public of the effect of the actual change that has been submitted with this Notice of Adopted Change, if any. If the submittal, including supplementary materials, exceeds 100 pages, include a summary of the amendment briefly describing its purpose and requirements.

Toledo Transportation System Plan, City of Toledo Ordinance 1352

NOTICE OF ADOPTED CHANGE – SUBMITTAL INSTRUCTIONS

1. A Notice of Adopted Change must be received by DLCD no later than 20 days after the ordinance(s) implementing the change has been signed by the public official designated by the jurisdiction to sign the approved ordinance(s) as provided in ORS 197.615 and OAR 660-018-0040.

2. A Notice of Adopted Change must be submitted by a local government (city, county, or metropolitan service district). DLCD will not accept a Notice of Adopted Change submitted by an individual or private firm or organization.

3. **Hard-copy submittal:** When submitting a Notice of Adopted Change on paper, via the US Postal Service or hand-delivery, print a completed copy of this Form 2 on light green paper if available. Submit **one copy** of the proposed change, including this form and other required materials to:

Attention: Plan Amendment Specialist
Dept. of Land Conservation and Development
635 Capitol Street NE, Suite 150
Salem, OR 97301-2540

This form is available here:
http://www.oregon.gov/LCD/forms.shtml

4. **Electronic submittals** of up to 20MB may be sent via e-mail. Address e-mails to plan.amendments@ state.or.us with the subject line "Notice of Adopted Amendment."

Submittals may also be uploaded to DLCD's FTP site at http://www.oregon.gov/LCD/Pages/papa_ submittal. aspx.

E-mails with attachments that exceed 20MB will not be received, and therefore FTP must be used for these electronic submittals. **The FTP site must be used for all .zip files** regardless of size. The maximum file size for uploading via FTP is 150MB.

Include this Form 2 as the first pages of a combined file or as a separate file.

5. **File format:** When submitting a Notice of Adopted Change via e-mail or FTP, or on a digital disc, attach all materials in one of the following formats: Adobe .pdf (preferred); Microsoft Office (for example, Word .doc or docx or Excel .xls or xlsx); or ESRI .mxd, .gdb, or. mpk. For other file formats, please contact the plan amendment specialist at 503-934-0017 or plan.amendments@state.or.us.

6. **Content:** An administrative rule lists required content of a submittal of an adopted change (OAR 660-018-0040(3)). By completing this form and including the materials listed in the checklist below, the notice will include the required contents.

Where the amendments or new land use regulations, including supplementary materials, exceed 100 pages, include a summary of the amendment briefly describing its purpose and requirements.

7. Remember to notify persons who participated in the local proceedings and requested notice of the final decision. (ORS 197.615)

If you have any questions or would like assistance, please contact your DLCD regional representative or the DLCD Salem office at 503-934-0017 or e-mail plan.amendments@state.or.us.

Notice checklist. Include all that apply:

- ☒ Completed Form 2
- ☒ A copy of the final decision (including the signed ordinance(s)). This must include city *and* county decisions for UGB and urban reserve adoptions
- ☒ The findings and the text of the change to the comprehensive plan or land use regulation
- ☐ If a comprehensive plan map or zoning map is created or altered by the proposed change:
  - ☐ A map showing the area changed and applicable designations, and
  - ☐ Electronic files containing geospatial data showing the area changed, as specified in OAR 660-018-0040(5), if applicable
- ☒ Any supplemental information that may be useful to inform DLCD or members of the public of the effect of the actual change

ORDINANCE NO. 1352

AN ORDINANCE AMENDING ORDINANCE 1285 (TOLEDO MUNICIPAL CODE CHAPTER 1.08) TO UPDATE THE 2000 TOLEDO COMPREHENSIVE LAND USE PLAN AND POLICIES TO ADOPT THE 2013 TOLEDO TRANSPORTATION SYSTEM PLAN AS AN ELEMENT OF THE 2000 TOLEDO COMPREHENSIVE LAND USE PLAN.

WHEREAS, the City of Toledo adopted Ordinance 1285, adopting the 2020 Vision for Toledo (The 2000 Toledo Comprehensive Land Use Plan) and 2000 Toledo Comprehensive Land Use Plan Inventory documents on April 4, 2001, and acknowledged by the State of Oregon Department of Land Conservation and Development on June 19, 2002;

WHEREAS, the 2000 Toledo Comprehensive Land Use Plan allows for text amendments, when consistent with Oregon Statewide Planning Goals and Guidelines;

WHEREAS, with the passage of time, various plan provisions and code sections require updating;

WHEREAS, Oregon Administrative Rule 660, Division 12, requires cities to prepare and adopt a local transportation plan that serves as the transportation element of their Comprehensive Plan that is prepared in accordance with the Oregon Statewide Planning Goal 12, Oregon Administrative Rule 660-12 and the Transportation Planning Rule;

WHEREAS, the purpose of a local Transportation System Plan, according to the Transportation Planning Rule, is to, "establish a system of transportation facilities adequate to meet identified local transportation needs consistent with regional Transportation System Plans and adopted elements of the state Transportation System Plan";

WHEREAS, the City of Toledo was awarded a Transportation and Growth Management (TGM) grant administered jointly by the Oregon Department of Transportation and Department of Land Conservation and Development;

WHEREAS, the TGM grant funded the contract services of professional consulting firm CH2M Hill to provide assistance to study and prepare a Transportation System Plan for transportation modes within the City limits and Urban Growth Boundary;

WHEREAS, a project advisory committee was formed in order to review the City's existing transportation systems, review the Zoning Ordinance and Comprehensive Land Use Plan, and make recommendations for plans, policies, and updates;

WHEREAS, after four project advisory committee meetings and two open house public forums, the consultant prepared a recommendation for the Comprehensive Land Use Plan and Municipal Codes and presented the recommendation to the Toledo Planning Commission and City Council in a joint worksession on May 14, 2013;

WHEREAS, notices of the proposed Transportation System Plan adoption were provided in accordance with noticing procedures established in the Toledo Municipal Code and Oregon State Revised Statutes;

WHEREAS, the Planning Commission reviewed the draft Transportation System Plan in worksession on August 7, 2013;

WHEREAS, the Planning Commission held a public hearing on the recommendation of the Transportation System Plan through a Comprehensive Land Use Plan amendment (PA-1-13), at a public hearing held on August 14, 2013, and continued to September 11, 2013, at which time, the Planning Commission sent forward the proposed Toledo Comprehensive Land Use Plan revisions to the City Council for a public hearing and adoption;

WHEREAS, the City Council reviewed the draft ordinance and proposal in worksession on October 8, 2013; and

WHEREAS, the City Council held a public hearing on November 6, 2013, and continued to December 4, 2013, for the proposed Toledo Comprehensive Land Use Plan amendment to adopt the Transportation System Plan, and the City Council has determined that the adoption of the plan is in the best interest of the citizens of Toledo.

NOW, THEREFORE, THE CITY OF TOLEDO ORDAINS AS FOLLOWS:

SECTION 1.

§1.08.010(A) of the Toledo Municipal Code is amended to read as follows (with the Comprehensive Land Use Plan text language in Article 12 and Article 14 amended on December 4, 2013, as described in Exhibit A of this ordinance for reference):

1.08.010 Documents adopted.

A. The 2020 Vision for Toledo (The 2000 Toledo Comprehensive Land Use Plan) dated April 4, 2001, as amended November 7, 2012, by Ordinance 1345 and amended December 4, 2013, by Ordinance 1352.

SECTION 2.

§1.08.010(F) is added to the Toledo Municipal Code, to read as follows:

F. The Toledo Transportation System Plan, dated December, 2013.

APPROVED AND ADOPTED by the City Council of the City of Toledo, Oregon on this 4th day of December, 2013:

APPROVED by the Mayor of the City of Toledo, Oregon, on this 10th day of December, 2013.

APPROVED

Ralph Grutzmacher, Mayor

ATTEST:

Nancy Bryant, City Recorder

EXHIBIT "A"

WHEREAS, in order to be consistent with the Toledo Transportation System Plan, the City of Toledo must make text amendment changes to the 2000 Toledo Comprehensive Land Use Plan in Article 12 (Transportation) and Article 14 (Urbanization);

WHEREAS, the proposed text amendment is in compliance with the Oregon Statewide Planning Goals and Guidelines, and the Transportation Planning Rule.

NOW, THEREFORE, the following amendments are adopted into the Toledo Comprehensive Land Use Plan:

SECTION 1:

Toledo Comprehensive Land Use Plan; Article 12 (Transportation), is repealed and amended to read as follows:

ARTICLE 12: TRANSPORTATION

GOALS:

1. Provide a safe and efficient, multi-model transportation system which provides linkages in a manner that enhances Toledo's neighborhoods, environment, economy, and social and scenic values.

2. Minimize the adverse social, economic, and environmental impact costs of constructing, maintaining, and using transportation facilities and services in cooperation with county, state, and other public agencies and the private sector.

3. Encourage safe, efficient, convenient, and economic modes of travel that reduce reliance upon one form of transportation, minimize energy consumption and air quality impacts.

4. Develop a safe and efficient street system that will handle the project needs of the community and provide connections to the region.

5. Provide safe, accessible, and convenient pedestrian and bicycle facilities while taking into account Toledo's topography, current street use and widths, and current funding levels for major improvements.

6. The City of Toledo will seek for all its citizens the maximum level of access to all social, work, and welfare resources.

7. The City of Toledo will seek for all its citizens a customer-based regionally coordinated public transit system that is efficient, effective, and founded on present and future needs.

8. Minimize the negative impact of the rail system on other aspects of the transportation system, adjacent land uses, and quality of life in Toledo.

9. Encourage land use patterns that maximize rail service or preserve the future opportunity to use rail transportation.

10. Support current rail service in Toledo.

OBJECTIVES:

Multimodal System Objectives

1. Provide a multi-modal transportation system which provides services for motorized vehicles, bicycles, pedestrians, electronic data transmission, mass transit, and air, rail and water transport (including shipping).

2. Encourage options other than the personal automobile for transportation services through comprehensive land use planning policies that would allow reliance upon the automobile and vehicle trips to be reduced.
    a. Improve and support transit services.
    b. Improve and support ride-sharing opportunities.
    c. Support programs to reduce the single-occupancy trips for commuters to Newport and other Lincoln County and Benton County areas.
    d. Encourage the provision of sidewalks, pedestrian paths, and bicycle paths/lanes.

3. Support the role of Toledo as a regional center for air, water, rail, and roadway transport connections. Within Lincoln County, Toledo has the only sites which provide rail, air, water, and roadway connections for moving goods.

4. Continue to coordinate transportation planning and services with Lincoln County, Oregon Department of Transportation, private industry, and others determining transportation policies, programs, and projects.

5. Maintain a Transportation System Plan which supports and implements these transportation goals and objectives, the Oregon Transportation Goal 12, and the requirements of the Oregon Transportation Rule.

Public Works Objectives

6. Build and maintain roadways and other transportation facilities in a manner that is the most cost effective for the life of the road so as to reduce public maintenance costs.

7. Provide transportation facilities designed to maintain safe conditions over time and in adverse weather conditions.

8. Develop a coordinated approach to the operation, development, and maintenance of transportation facilities by linking the construction and maintenance of roadways to the

construction and maintenance of other public services including wastewater, water, storm drainage, public utilities, and public safety vehicle access and to the increased service level demands of new or expanded land within the City and Urban Growth Boundary.

9. Ensure continued, economically viable, and competitive access to electronic data transmission. Maintain the Toledo Public Utilities Commission to provide input to the City Council regarding franchises for the operation of public utilities within Toledo.

Development/Land Use Objectives

10. Assure that minimum, adopted national standards for public safety access are maintained for each property and that access lanes are provided as fire breaks and evacuation routes within the community.

11. Require new development to extend/improve transportation facilities to complete transportation system linkages and to mitigate impacts of additional traffic from new development on the existing transportation system and neighborhoods.

12. Maintain standards and procedures to ensure the provision of the desired transportation system as each property is developed/redeveloped for more intense uses by coordinating development permits with the extension or improvement of streets and other transportation facilities.

13. Develop and maintain a Transportation System Plan and clear and objective local standards for transportation facilities construction and maintenance.-Incorporate the use of the TSP and local standards into application reviews and permits for all new developments and construction projects.

14. Minimize disturbances of the natural environment or use of natural resources when locating, constructing, maintaining, and using transportation facilities and services. Encourage land use patterns which minimize environmental impacts from transporting people, goods, and services.

Street System Objectives

15. Provide a system of roadways that maintain vehicle capacity and public safety as the community grows.

16. Provide linkages within the community with a circulation system that is safe and convenient to all areas within the community and that links the community to Highway 20, rail, air, and water shipping facilities.

17. Maintain the character of Toledo's neighborhoods by encouraging local streets that ensure safe and efficient traffic flows but which are designed to encourage low speeds and minimize traffic impacts within the residential neighborhoods.

18. Maintain efficient and safe truck routes to support the transportation of people, goods, and

services between major employment centers and markets.

19. Support and work with the Cascades West Area Commission on Transportation (CWACT) to identify funding for Western Junction projects that are in line with Toledo's vision for the intersection.

20. Work with partners to add wayfinding signs to direct visitors to downtown Toledo, the Arts District, and other Toledo attractions for all modes including vehicles, bicyclists, and pedestrians.

21. Continue to support transportation access including freight to industrial sites in the City - including the Siletz Kiln site - to support economic development.

22. Maintain flexibility with street standards for all modes given the existing topographical and right-of-way constraints, provide options to minimum standards that provide safe, feasible streets.

23. The designated Functional Classification of streets in the Toledo TSP will be used to prioritize street maintenance and guide the location and design of new streets.

24. Protect the function of existing and planned roadways by application of appropriate setbacks, land use regulations, exactions, and voluntary dedication.

25. All development proposals, plan amendments, or zone changes will conform with the Toledo Transportation System Plan.

26. Consider impacts on existing or planned transportation facilities in all land use decisions.

27. Coordinate with the Oregon Department of Transportation and Lincoln County Public Works to implement the improvements listed in the Toledo Transportation System Plan.

28. Continue to update capital plans to identify, prioritize, and construct transportation projects giving careful consideration to a constrained budget environment, topographical challenges, and diminishing sources of outside funding.

29. Land uses authorized under Comprehensive Land Use Plan Map and Zoning Map amendments must be consistent with the identified function, capacity, and level of services of transportation facilities.

<u>Bicycle and Pedestrian System Objectives</u>

30. Develop a pedestrian and bikeway system which will provide routes to allow pedestrians and bicyclists to travel to and from residential areas to schools, parks, places of employment, and commercial areas.
    a. Action: If there are stakeholders in this area, then every effort should be made to involve these citizens in selecting prioritized routes to be considered for feasibility, safety, and cost versus use practicality.

b. Action: The same stakeholders should also be encouraged to take an active role in determining sources of revenue for funding these improvements above the funds currently being dedicated for bike lanes.
c. Action: Coordinate with Lincoln County and private land owners in the development of bikeways.

31. All new arterial and collector streets and major improvements[1] to arterial and collector streets shall include the pedestrian and bikeway facility specified in the street design standard where feasible.

32. When traffic volume on existing collector streets (speeds <25mph) exceeds 3,000 ADT consider changing the bikeway type from shared roadway to bike lanes.

33. Low curb crosswalks shall be used at all intersections, consistent with ADA guidelines, to facilitate use by all pedestrians.

34. Where feasible, the City shall allow no physical obstruction of sidewalks such as utility poles, sign posts, or guy wires (consistent with ADA guidelines).

35. Provide safe, convenient, and attractive walking environments through the City with a special emphasis in the commercial area.

36. Visibility and unobstructed views shall be promoted for all areas of high pedestrian use.

37. Bicycle traffic on sidewalks shall be prohibited.

38. The City will work with interested landowners to explore local funding options for sidewalk improvements such as Local Improvement Districts.

39. The City supports the development of a well-developed sidewalk system with street trees to link the community to downtown, local parks, and the waterfront.

40. Support efforts by local schools and emergency service organizations to implement a bicycle, pedestrian, and driver safety education program to encourage safe walking, cycling, and driving behavior.

41. Coordinate with rail operators to address rough pavement at railroad crossings to create smooth crossings for bicyclists and pedestrians. (This objective is in conjunction with Rail Objectives 61 and 63 to address railroad crossings).

42. Identify ways to improve wayfinding resources to guide pedestrians and bicyclists to explore Toledo and provides directions to local attractions in downtown and near the waterfront.

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[1] "Major improvement" refers to a construction project where the pavement or asphalt of the street is removed down to the base rock foundation and rebuilt.

43. Work with regional partners to determine the feasibility of building an intercity multi-use trail.

44. Encourage community partners to explore the possibility of instituting a volksmarch[2] route in Toledo for programming events.

Port and Water System Objectives

45. Work with partners to determine the lifespan of Butler Bridge and explore the rebuilding or altering the bridge to accommodate taller barges and boats.

46. Support efforts to develop a pier for barge access at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel.

47. Explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown.
48. Work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site for Depot Slough.

49. Continue to make the proposed intermodal hub at Tokyo Slough (linking water, rail, and freight truck transportation) a high priority.

Transit Objectives

50. The City will support and promote regional planning for public transportation services that use innovative technology to maximize efficiency of operation, planning, and administration of public transportation.

51. The City encourages the use of car pools and park-and-ride lots in the area and other strategies to reduce the number of single occupant vehicle trips.

52. The City shall support existing public transportation services by improving facilities and promoting public awareness of the services.

53. The City will coordinate with other jurisdictions when park-and-ride facilities are needed.

54. Maintain long-standing partnership with Lincoln County Transit and the North by Northwest Connector to support new investments in transit service and infrastructure, and identify potential new funding sources to implement these improvements.

55. Encourage the Toledo Chamber of Commerce or other organization to explore a citywide transit shuttle or circulator that could meet the demand for improved local service for Toledo residents and employees.

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[2] Volksmarching is a form of personal, non-competitive, fitness walking that originated in Germany and has a popular following in the United States.

56. Encourage local and regional partners to explore long-term feasibility of water taxi or ferry service to Newport.

Air Objective

57. If the airport closes, work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City.

Pipeline Objective

58. Continue to support the Georgia-Pacific plant's effluent pipeline and work with partners to maintain applicable environmental permitting.

Rail Objectives

59. Retain existing railroad crossings in Toledo and strive for safety measures that offer the highest level of protection.

60. Work with the railroad to minimize the visual and noise impacts of rail traffic.

61. Continue to work with the railroad to facilitate pedestrian facility installation at all pedestrian crossings.

62. Coordinate with regional organizations to emphasize the importance of the current rail system to the economy of Toledo and Lincoln County.

63. Coordinate regularly with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to work together to address the conditions of the crossings.

64. Develop evaluation criteria to prioritize public crossing investments and generate a list of improvements in order of greatest priority.

65. Continue to pursue the proposed intermodal hub at Tokyo Slough with the Port of Toledo to add potential freight rail customers.

66. Work with ODOT Rail and PNWR to develop policies to reduce idling train engines near Downtown businesses.

67. Support efforts that will attract new businesses and support existing businesses and industries that will utilize freight and potential passenger rail service between Toledo and the I-5 corridor

SECTION 2:

Toledo Comprehensive Land Use Plan; Article 14 (Urbanization and Livability), Goal 3 and Objective 4, are amended to read as follows:

GOALS:

3. Ensure that all new developments are reviewed expeditiously and thoroughly and result in compliance with the Comprehensive Plan goals and policies, the Transportation System Plan requirements, and Toledo's Municipal Code and standards.

OBJECTIVES:

4. Work with Lincoln County to ensure that as undeveloped portions of the Urban Growth Boundary are in transition from rural to urban uses, development in these areas occurs in a manner consistent with the Toledo Comprehensive Plan, Transportation System Plan, and standards for redevelopment.

Toledo, Oregon

TRANSPORTATION SYSTEM PLAN

PREPARED FOR:
City of Toledo

WITH SUPPORT FROM:
Oregon Department of Transportation

Adopted by Ordinance #1352 on December 4, 2013

Contents

Tables

Figures

Appendixes

Acknowledgements

Project Advisory Committee (PAC)

Nic Dahl, Dahl Disposal

Jack Dunaway, Toledo City Council

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Anne Learned-Ellis, Toledo Planning Commission

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Jerry Seth, Toledo Planning Commission

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Project Management Team (PMT)

Michelle Amberg, City Manager, City of Toledo

Stuart Cowie, Planner, City of Toledo (through February 2013)

Adam Denlinger, City Project Manager and Public Works Director, City of Toledo (through May 2013)

David Helton, Project Manager, Oregon Department of Transportation

Arlene Inukai, Planning Assistant, City of Toledo

Allen Stewart, City of Toledo (through August 2012)

Aneta Synan, Planner, City of Toledo (as of May 2013)

CH2M HILL Project Team

Terra Lingley, AICP, Project Manager

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Acronyms and Abbreviations

CWACT	Cascades West Area Commission on Transportation
DEQ	Department of Environmental Quality
DLCD	Department of Land Conservation and Development
FTA	Federal Transit Administration
LID	Local Improvement District
LOS	Level of Service
MAP-21	Moving Ahead for Progress in the 21st Century
MNIF	Marine Navigation Improvement Fund
MPH	Miles per hour
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OPRD	Oregon Parks and Recreation Department
ORS	Oregon Revised Statutes
OTIB	Oregon Transportation Investment Bank
PAC	Project Advisory Committee
PNWR	Portland and Western Railroad
PRLF	Port Revolving Loan Fund
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users
SDC	System Development Charge
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TAP	Transportation Alternatives Program
TE	Transportation Enhancement
TGM	Transportation Growth Management
TIF	Transportation Improvement Fund
TIFIA	Transportation Infrastructure Finance and Innovation Program
TPR	Transportation Planning Rule
TSP	Transportation System Plan
UGB	Urban Growth Boundary
v/c	Volume to capacity

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation (ODOT) and the Oregon Department of Land Conservation and Development (DLCD). This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds.

The contents of this document do not necessarily reflect views or policies of the State of Oregon.

Executive Summary

The City of Toledo initiated the Toledo Transportation System Plan (TSP) in 2012 in partnership with the Oregon Department of Transportation (ODOT). The Toledo TSP will guide the management and development of the City's comprehensive multimodal transportation system for the next 20 years. Within, or just outside of, Toledo's Urban Growth Boundary there are local streets, sidewalks, bikeways, multi-use paths, regional bus service, a freight rail line, a working port, a small airport, a major statewide highway, and a paper mill that attracts freight trucks.

This plan supports Toledo's needs for transportation services and facilities, while remaining consistent with local, county, and state plans. The TSP contains the necessary components to be adopted as the transportation element of the City of Toledo's *Comprehensive Land Use Plan*, first adopted in 2000. This plan also provides ODOT, Lincoln County, and other agencies with projects and objectives that should be acknowledged in their respective planning efforts.

ES.1 TSP Projects

The modal plans within the TSP include objectives and projects to address Toledo's transportation needs, as well as future households and employment centers. The TSP projects are organized by mode and are prioritized based on need, complexity, and funding availability.

ES.1.1 Project Details

The Toledo TSP includes prioritized projects for the City of Toledo. Community preferences, estimated costs, project complexity, and funding availability determine whether a TSP project is identified as a short-term (0-5 years), medium-term (5-10 years), or long-term (10-20 years) priority.

Tables ES-1-4 provide the cost estimates, priority, possible funding sources, and lead agency/ project partners for the TSP road, bicycle/pedestrian, transit, and Port projects. More detailed descriptions of the modal plans (an outlined approach for a specific type of transportation) are included in the Modal Plan Chapter. There are no rail, air, or pipeline projects in the TSP; only objectives are provided for these systems to support the City's goals and to address transportation deficiencies.

Street System

The Street System Modal Plan includes more detail on these projects, in addition to the deficiencies and needs the projects address. The jurisdiction in charge of building or studying a project in the future is listed in the lead agency/project partners column.

TABLE ES-1
Street System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
R1	Freight Route Signage Improvements – Citywide	$12,000	Short-term	Street Fund, STIP, *LID*	City
R2a	Western Junction - One Traffic Signal Option	$7,144,000	Long-term	STIP, Street Fund, OTIB, *Bonds*	ODOT, City Lincoln County
R2b	Western Junction – Two Traffic Signals Option	$8,098,000			
R3	Business Loop 20 - Eastbound Right Turn Pocket at A Street	$449,000	Medium-term	Street Fund, *LID*, STIP	City
R4	Burgess Road Realignment to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term	Street Fund, *LID*, STIP	City
R5	Sturdevant Road – Road Realignment for Siletz Site Freight Access	$595,000	Long-term	Street Fund, STIP *LID*, *SDC, Bonds*	County, City, Siletz Tribe
R6	A Street Railroad Crossing[2]	$176,000	Short-term	Street Fund, Bike/Ped Fund, *LID*, PNWR	City, PNWR, ODOT Rail
R7	Butler Bridge Road and NW 1st Street Intersection changes [2 3]	$51,000	Short-term	Street Fund, *LID*	City
R8	Wayfinding signs	$10,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City

Notes:

1 STIP includes all funded categories.

2 This project is in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and grew the estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04 percent.

3 This project from the *Waterfront Connectivity Plan* combines pedestrian, street, and rail improvements into one project. The plan did not break down the cost of each improvement.

Funding sources in *italics* are sources not currently used by the City

LID – Local Improvement District

STIP – Oregon Statewide Transportation Improvement Program

SDC –System Development Charge

OTIB – Oregon Transportation Infrastructure Bank

PNWR – Portland and Western Railroad

Bicycle and Pedestrian System

The following is a summary of the projects identified in the Bicycle and Pedestrian System Modal Plan. More detail on these projects including a discussion of the deficiencies and needs addressed are in the Modal Plan. The jurisdiction in charge of building or studying a project in the future is listed in the lead agency/project partners column.

TABLE ES-2
Bicycle and Pedestrian System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
BP1	Burgess Road – Fill sidewalk gaps	$172,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP2	Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term	Bike/Ped Fund, Bonds, *LID*	City, School District
BP3	Douglas Street and 3rd Street near the Community Center – fill sidewalk gaps	$63,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP4	East Slope Road sidewalk extension	$551,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP5	A Street Sidewalk Rebuild – Business Loop 20 to NW 1st Street[2]	$105,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP6	Bay Boulevard Sidewalk – Depot Slough to Business Loop 20[2]	$108,000	Medium- to long-term	Street Fund, Bike/Ped Fund, *LID*	City
BP7	Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Short-term	County, Bike/Ped Fund, *LID*	City, County, School District
BP8	Railroad Pedestrian Crossing Improvements to Discourage Automobile Use - Butler Bridge Road at SE 2nd Street	$11,000	Short-term	Bike/Ped Fund, *LID*	City
BP9	NW 1st Street Median, Midblock Crosswalk, and North Sidewalk/Grade Crossing Improvements[2 3]	$558,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP10	Butler Bridge Road Railroad Fencing – NW 1st Street to SW 2nd Street[2]	$27,000	Short-term	Bike/Ped Fund, *LID,* PNWR	City
BP11	Trail along Bay Boulevard/Yaquina Bay Road	$817,000	Long-term	STIP, County, Bike/Ped Fund, Bonds, *LID*	County, City
BP12	Multi-Use Trail – Sturdevant Road	$4,227,000	Long-term	Bike/Ped Fund, Bonds, *LID*	City, County, School District

TABLE ES-2
Bicycle and Pedestrian System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
BP13	Business Loop 20 Multi-use Trail (South/West Side) – US 20 to NW 6th Avenue	$2,675,000	Long-term	STIP, Bike/Ped Fund, Bonds, *LID*	City
BP14	Waterfront Path: East Section (between NW 1st Street and Butler Bridge Road)[2]	$278,000	Short-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP15	Waterfront Path: West Section between Bay Boulevard and NW 1st Street (Includes NW 1st Street Crossing and Boardwalk)[2]	$872,000	Medium- to long-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP16	Bay Boulevard – Depot Slough Bicycle/Pedestrian Crossing	$1,660,000	Medium- to long-term	STIP, Bike/Ped Fund, Bonds, *LID*	City

Notes:

1 STIP includes all funded categories.

2 This project is in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and grew the estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04 percent.

3 This project from the *Waterfront Connectivity Plan* combines pedestrian, street, and rail improvements into one project. The plan did not break down the cost of each improvement.

Funding sources in *italics* are sources not currently used by the City

LID – Local Improvement District

STIP – Oregon Statewide Transportation Improvement Program

Transit System

The following is a summary of the project identified in the Transit System Modal Plan. More detail on this project including a discussion of the deficiencies and needs addressed are in the Modal Plan. The jurisdiction in charge of building or studying a project in the future is listed in the lead agency/project partners column.

TABLE ES-3
Transit Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
T1	Add a bus shelter at the Food Fair Stop	$5,000	Medium-term	FTA 5310	City, Lincoln County Transit

Port and Water System

The Port and Water System Modal Plan includes more detail on these projects, in addition to the deficiencies and needs the projects address. The Port of Toledo would be the lead agency for future projects (shown in the lead agency/project partners column).

TABLE ES-4
Port and Water System Upgrade Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source	Lead Agency/ Project Partners
Phase 1 projects – New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift	$3,493,000	Short-term	Port, ConnectOregon, MNIF, PRLF	Port
Phase 2 projects – upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas	$950,000	Medium-term	Port, ConnectOregon, MNIF, PRLF	Port
Phase 3 projects – construct vessel work building, new boatyard office and restrooms	$2,050,000	Long-term	Port, ConnectOregon, PRLF	Port

Notes:
Port – General Port of Toledo Revenues
MNIF – Marine Navigation Improvement Fund
PRLF – Port Revolving Loan Fund

ES.2 Funding

There are a number of funding sources for transportation projects included in this TSP; for the more expensive or complex projects a number of funding sources could be combined to raise the necessary funds and implement the project. Many funding sources require a project to be in an adopted plan. The TSP once adopted will help the City apply for funding for the various transportation projects. Transportation funding sources include: the federal government, the State of Oregon, and Lincoln County. The City also collects funds locally for transportation projects in the Street Fund.

The project tables above include suggested funding sources for the specific type of project. Funds are available based on the type of project and there are specific funding sources for transportation, street projects, highway projects, and port projects. The most common existing funding sources applicable to TSP projects include the Statewide Transportation Improvement Program (STIP), the Oregon Transportation Improvement Bank (OTIB), the City Street Fund, System Development Charges (SDCs), bonds, and Bicycle and Pedestrian Funds (Oregon requires one percent of state street funds to go towards bicycle and pedestrian projects). In addition, the City could explore new funding sources such as a Local Improvement District (LID), which would capture increases in property values into a fund to help implement projects within a given district.

A more in-depth discussion of funding sources is in Chapter 4 and Appendix B: Transportation Funding.

1. Introduction

The Toledo Transportation System Plan (TSP) establishes a long-range plan for the combination of projects, programs, and objectives that will achieve Toledo's transportation goals. To do this, the TSP looks at the needs of its residents, businesses, employees, and visitors – now (2013) and what is expected for the future (2035). The TSP considers the needs of all users of the City's uniquely diverse transportation network, by including objectives and projects that will serve the needs of drivers, transit riders, bicyclists, pedestrians, freight traffic, rail customers, airport users, and Port customers.

This plan has been prepared in compliance with state, regional, and local plans and policies, including the *Oregon Highway Plan* (OHP); the state *Transportation Planning Rule* (TPR); Lincoln County Transportation System Plan; the Port of Toledo's *Waterfront Connectivity Plan*, *Boatyard Buildout Plan,* and *Waterfront Development Strategic Plan*; and the City of Toledo's *Comprehensive Land Use Plan*. The TSP presents the community's desire for the future transportation system, while remaining consistent with these state, regional, and local plans. Plan elements will be implemented by the City, private developers, and regional or state agencies.

The remainder of this TSP is organized into the following chapters:

- **2. Transportation System Goals and Objectives** lists Goals and Objectives for the City's transportation system.
- **3. Modal Plans** discusses the condition of the City's transportation system and projects to address identified deficiencies and needs. Chapter 3 is organized into sections by transportation mode:
  - Street System Plan
  - Transit Plan
  - Bicycle and Pedestrian Plan
  - Port and Water Transportation Plan
  - Rail Network
  - Air Plan
  - Pipeline Network
- **4. Implementation Measures** includes plan elements necessary to implement the TSP:
  - **Functional Classification Plan** describes the updates to the existing functional classification to ensure consistency between City and state classifications.
  - **Street Design Standards** updates street design standards, including multi-use paths and boardwalks, and establishes standards for the spacing of public streets.

- **Access Management Standards** describes spacing standards for public streets and private accesses based on the functional classification of the streets.
- **Traffic Operations Standards** includes new City operation standards and ODOT's mobility targets.
- **Funding Sources** identifies potential sources of funding for projects in the TSP and a strategy for prioritizing projects and pursuing funding.

The **appendixes** are not part of the TSP document, but contain technical information and documentation supporting the TSP and are organized by technical memoranda produced as part of the TSP process. They are:

- **Appendix A: Plan Assessment** details the policy framework that guided development of the TSP and provides a list of planning documents reviewed and their relevance to the TSP.
- **Appendix B: Transportation Funding and Improvement Costs** summarizes existing transportation funding sources and potential future funding sources that could be considered to fund projects in the TSP. This appendix includes planning-level cost estimates for the TSP projects, with detailed unit cost breakdowns.
- **Appendix C: Transportation Deficiencies and Needs** documents the current and future street conditions and identifies deficiencies in the transportation network. The section also describes the study area, a brief inventory of current land uses, a description of existing transportation facilities within the Urban Growth Boundary, a traffic operations and safety analysis, and a parking study. Existing and future conditions are compared to the appropriate mobility and operations standards.
- **Appendix D: Transportation Alternatives** documents the development and selection of TSP project and program alternatives by mode.
- **Appendix E: Street Standards** documents the street standards for streets and multi-use paths in Toledo.
- **Appendix F: Code Amendments** recommends changes to the Toledo Municipal Code that will help the City implement the TSP.
- **Appendix G: Public Involvement Process** details the public involvement activities that occurred throughout the development of the TSP. It provides details on public outreach through the project website, stakeholder interviews, community open houses, PAC meetings, and briefings.

2. Transportation System Goals and Objectives

The Project Team, with input from the Project Advisory Committee, interested residents and stakeholders developed the following goals and objectives based upon a review of the unadopted 1995 City of Toledo Transportation System Plan and added applicable goals from the City's *Comprehensive Land Use Plan*. These goals and objectives address key transportation issues identified by the community and requirements of the Transportation Planning Rule (TPR). These goals and policies were used during the TSP planning process to evaluate transportation alternatives, select preferred alternatives, and prioritize future transportation improvements

Goals and policies were developed for each of the major transportation modes found in Toledo including the street network, rail, bicycle and pedestrians, and public transit.

2.1 Goals

1. Provide a safe and efficient, multi-modal transportation system which provides linkages in a manner that enhances Toledo's neighborhoods, environment, economy, and social and scenic values.
2. Minimize the adverse social, economic, energy, and environmental impact costs of constructing, maintaining, and using transportation facilities and services in cooperation with county, state, and other public agencies and the private sector.
3. Encourage safe, efficient, convenient, and economic modes of travel that reduce reliance upon one form of transportation, minimize energy consumption and air quality impacts.
4. Develop a safe and efficient street system that will handle the projected needs of the community and provide connections to the region.
5. Provide safe, accessible, and convenient pedestrian and bicycle facilities while taking into account Toledo's topography, current street use and widths, and current funding levels for major improvements.
6. The City of Toledo will seek for all its citizens the maximum level of access to all social, work, and welfare resources.
7. The City of Toledo will seek for all its citizens a customer-based regionally coordinated public transit system that is efficient, effective, and founded on present and future needs.
8. Minimize the negative impact of the rail system on other aspects of the transportation system, adjacent land uses, and quality of life in Toledo.
9. Encourage land use patterns that maximize rail service or preserve the future opportunity to use rail transportation.
10. Support current rail service in Toledo.

2.2 Objectives

2.2.1 Multimodal System Objectives

1. Provide a multi-modal transportation system which provides services for motorized vehicles, bicycles, pedestrians, electronic data transmission, mass transit, and air, rail and water transport (including shipping).
2. Encourage options other than the personal automobile for transportation services through comprehensive land use planning policies that would allow reliance upon the automobile and vehicle trips to be reduced.
    a. Improve and support transit services.
    b. Improve and support ride-sharing opportunities.
    c. Support programs to reduce the single-occupancy trips for commuters to Newport and other Lincoln County and Benton County areas.
    d. Encourage the provision of sidewalks, pedestrian paths, and bicycle paths/lanes.
3. Support the role of Toledo as a regional center for air, water, rail, and roadway transport connections. Within Lincoln County, Toledo has the only sites which provide rail, air, water, and roadway connections for moving goods.
4. Continue to coordinate transportation planning and services with Lincoln County, Oregon Department of Transportation, private industry, and others determining transportation policies, programs, and projects.
5. Maintain a Transportation System Plan which supports and implements these transportation goals and objectives, the Oregon Transportation Goal 12, and the requirements of the Oregon Transportation Planning Rule.

2.2.2 Public Works Objectives

6. Build and maintain roadways and other transportation facilities in a manner that is the most cost effective for the life of the road so as to reduce public maintenance costs.
7. Provide transportation facilities designed to maintain safe conditions over time and in adverse weather conditions.
8. Develop a coordinated approach to the operation, development, and maintenance of transportation facilities by linking the construction and maintenance of roadways to the construction and maintenance of other public services including wastewater, water, storm drainage, public utilities, and public safety vehicle access and to the increased service level demands of new or expanded land within the City and Urban Growth Boundary.
9. Ensure continued, economically viable, and competitive access to electronic data transmission. Maintain the Toledo Public Utilities Commission to provide input to the City Council regarding franchises for the operation of public utilities within Toledo.

2.2.3 Development/Land Use Objectives

10. Assure that minimum, adopted national standards for public safety access are maintained for each property and that access lanes are provided as fire breaks and evacuation routes within the community.
11. Require new development to extend/improve transportation facilities to complete transportation system linkages and to mitigate impacts of additional traffic from new development on the existing transportation system and neighborhoods.
12. Maintain standards and procedures to ensure the provision of the desired transportation system as each property is developed/redeveloped for more intense uses by coordinating development permits with the extension or improvement of streets and other transportation facilities.

13. Develop and maintain a Transportation System Plan and clear and objective local standards for transportation facilities construction and maintenance. Incorporate the use of the TSP and local standards into application reviews and permits for all new developments and construction projects.
14. Minimize disturbances of the natural environment or use of natural resources when locating, constructing, maintaining, and using transportation facilities and services. Encourage land use patterns which minimize environmental impacts from transporting people, goods, and services.

2.2.4 Street System Objectives

15. Provide a system of roadways that maintain vehicle capacity and public safety as the community grows.
16. Provide linkages within the community with a circulation system that is safe and convenient to all areas within the community and that links the community to Highway 20, rail, air, and water shipping facilities.
17. Maintain the character of Toledo's neighborhoods by encouraging local streets that ensure safe and efficient traffic flows but which are designed to encourage low speeds and minimize traffic impacts within the residential neighborhoods.
18. Maintain efficient and safe truck routes to support the transportation of people, goods, and services between major employment centers and markets.
19. Support and work with the Cascades West Area Commission on Transportation (CWACT) to identify funding for Western Junction projects that are in line with Toledo's vision for the intersection.
20. Work with partners to add wayfinding signs to direct visitors to downtown Toledo, the Arts District, and other Toledo attractions for all modes including vehicles, bicyclists, and pedestrians.
21. Continue to support transportation access including freight to industrial sites in the City - including the Siletz Kiln site - to support economic development.
22. Maintain flexibility with street standards for all modes given the existing topographical and right-of-way constraints, provide options to minimum standards that provide safe, feasible streets.
23. The designated Functional Classification of streets in the Toledo TSP will be used to prioritize street maintenance and guide the location and design of new streets.
24. Protect the function of existing and planned roadways by application of appropriate setbacks, land use regulations, exactions, and voluntary dedication.
25. All development proposals, plan amendments, or zone changes will conform with the Toledo Transportation System Plan.
26. Consider impacts on existing or planned transportation facilities in all land use decisions.
27. Coordinate with the Oregon Department of Transportation and Lincoln County Public Works to implement the improvements listed in the Toledo Transportation System Plan.
28. Continue to update capital plans to identify, prioritize, and construct transportation projects giving careful consideration to a constrained budget environment, topographical challenges, and diminishing sources of outside funding.
29. Land uses authorized under Comprehensive Land Use Plan Map and Zoning Map amendments must be consistent with the identified function, capacity, and level of services of transportation facilities.

2.2.5 Bicycle and Pedestrian System Objectives

30. Develop a pedestrian and bikeway system which will provide routes to allow pedestrians and bicyclists to travel to and from residential areas to schools, parks, places of employment, and commercial areas.

a. Action: If there are stakeholders in this area, then every effort should be made to involve these citizens in selecting prioritized routes to be considered for feasibility, safety, and cost versus use practicality.

b. Action: The same stakeholders should also be encouraged to take an active role in determining sources of revenue for funding these improvements above the funds currently being dedicated for bike lanes.

c. Action: Coordinate with Lincoln County and private land owners in the development of bikeways.

31. All new arterial and collector streets and major improvements[1] to arterial and collector streets shall include the pedestrian and bikeway facility specified in the street design standard where feasible.
32. When traffic volume on existing collector streets (speeds <25mph) exceeds 3,000 ADT consider changing the bikeway type from shared roadway to bike lanes.
33. Low curb crosswalks shall be used at all intersections, consistent with ADA guidelines, to facilitate use by all pedestrians.
34. Where feasible, the City shall allow no physical obstruction of sidewalks such as utility poles, sign posts, or guy wires (consistent with ADA guidelines).
35. Provide safe, convenient, and attractive walking environments through the City with a special emphasis in the commercial area.
36. Visibility and unobstructed views shall be promoted for all areas of high pedestrian use.
37. Bicycle traffic on sidewalks shall be prohibited.
38. The City will work with interested landowners to explore local funding options for sidewalk improvements such as Local Improvement Districts.
39. The City supports the development of a well-developed sidewalk system with street trees to link the community to downtown, local parks, and the waterfront.
40. Support efforts by local schools and emergency service organizations to implement a bicycle, pedestrian, and driver safety education program to encourage safe walking, cycling, and driving behavior.
41. Coordinate with rail operators to address rough pavement at railroad crossings to create smooth crossings for bicyclists and pedestrians. (This objective is in conjunction with Rail Objectives 61 and 63 to address railroad crossings).
42. Identify ways to improve wayfinding resources to guide pedestrians and bicyclists to explore Toledo and provides directions to local attractions in downtown and near the waterfront.
43. Work with regional partners to determine the feasibility of building an intercity multi-use trail.
44. Encourage community partners to explore the possibility of instituting a volksmarch[2] route in Toledo for programming events.

2.2.6 Port and Water System Objectives

45. Work with partners to determine the lifespan of Butler Bridge and explore the rebuilding or altering the bridge to accommodate taller barges and boats.

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1 "Major improvement" refers to a construction project where the pavement or asphalt of the street is removed down to the base rock foundation and rebuilt.

2 Volksmarching is a form of personal, non-competitive, fitness walking that originated in Germany and has a popular following in the United States.

46. Support efforts to develop a pier for barge access at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel.
47. Explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown.
48. Work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site for Depot Slough.
49. Continue to make the proposed intermodal hub at Tokyo Slough (linking water, rail, and freight truck transportation) a high priority.

2.2.7 Transit Objectives

50. The City will support and promote regional planning for public transportation services that use innovative technology to maximize efficiency of operation, planning, and administration of public transportation.
51. The City encourages the use of car pools and park-and-ride lots in the area and other strategies to reduce the number of single occupant vehicle trips.
52. The City shall support existing public transportation services by improving facilities including adding bus shelters at all stops and promoting public awareness of the services.
53. The City will coordinate with other jurisdictions when park-and-ride facilities are needed.
54. Maintain long-standing partnership with Lincoln County Transit and the North by Northwest Connector to support new investments in transit service and infrastructure, and identify potential new funding sources to implement these improvements.
55. Encourage the Toledo Chamber of Commerce or other organization to explore a citywide transit shuttle or circulator that could meet the demand for improved local service for Toledo residents and employees.
56. Encourage local and regional partners to explore long-term feasibility of water taxi or ferry service to Newport.

2.2.8 Air Objective

57. If the airport closes, work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City.

2.2.9 Pipeline Objective

58. Continue to support the Georgia-Pacific plant's effluent pipeline and work with partners to maintain applicable environmental permitting.

2.2.10 Rail Objectives

59. Retain existing railroad crossings in Toledo and strive for safety measures that offer the highest level of protection.
60. Work with the railroad to minimize the visual and noise impacts of rail traffic.
61. Continue to work with the railroad to facilitate pedestrian facility installation at all pedestrian crossings.
62. Coordinate with regional organizations to emphasize the importance of the current rail system to the economy of Toledo and Lincoln County.
63. Coordinate regularly with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to work together to address the conditions of the crossings.
64. Develop evaluation criteria to prioritize public crossing investments and generate a list of improvements in order of greatest priority.

65. Continue to pursue the proposed intermodal hub at Tokyo Slough with the Port of Toledo to add potential freight rail customers.
66. Work with ODOT Rail and PNWR to develop policies to reduce idling train engines near Downtown businesses.
67. Support efforts that will attract new businesses and support existing businesses and industries that will utilize freight and potential passenger rail service between Toledo and the I-5 corridor.

3. Modal Plans

3.1 Street System Plan

The street system in Toledo is constrained by the river, slough, and hills that make up the City of Toledo. Narrow streets and steep slopes restrict the amount and type of traffic on many streets within the City and reduce connectivity on local streets between neighborhoods. The Street System Modal Plan includes projects and objectives that work within these constraints, improving the street network to ensure that it meets Toledo's current and anticipated future needs. Appendix C: Transportation Deficiencies and Needs includes full analyses of existing and future transportation deficiencies and needs.

3.1.1 Street Existing and Future Conditions

Streets

Most streets in Toledo are limited by steep grades and narrow right-of-way; are narrow and winding, with little room for shoulders, sidewalks, or bicycle lanes; and some streets are gravel. Collector streets in Toledo are two lanes with lower speeds that connect the regional system to the local streets. Sections of the current collector and local system are not consistent with the intended use and function of the streets.

Traffic Generators

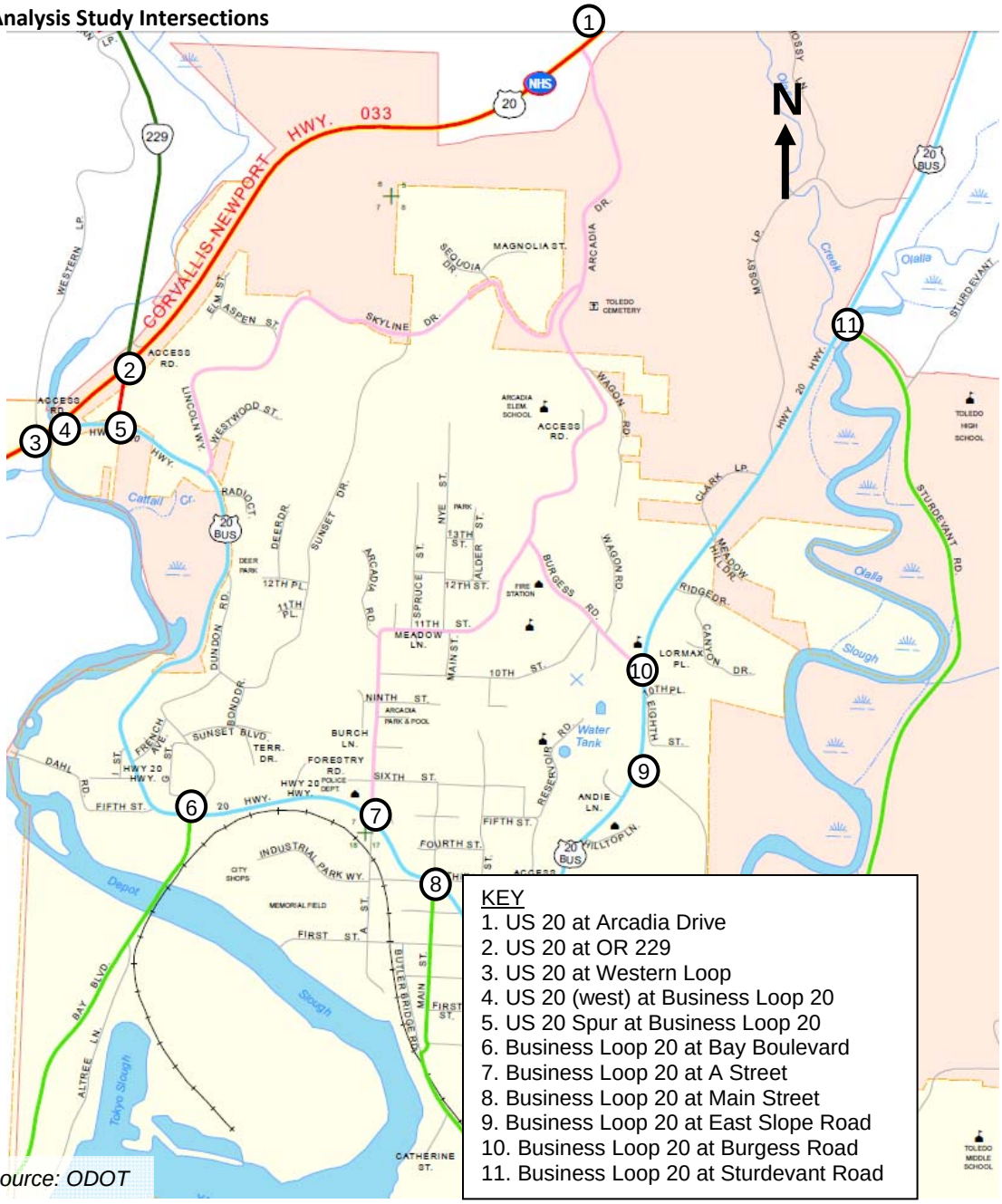
The main traffic generator in Toledo is the Georgia-Pacific Toledo Pulp and Paper Operations facility (Georgia-Pacific) site, though other traffic generators include businesses and services along Main Street, schools and parks, the Library, Police Department, and Fire Station. These traffic generators impact the transportation system in particular ways:

- The Georgia-Pacific site attracts employee trips during shift change hours and freight traffic throughout the day
- City services and businesses attract trips throughout the day, though the grocery store is likely to attract the highest traffic volumes in the afternoon as residents stop at the store on their way home or en route to other activities.

Existing and Future Traffic Conditions

Figure 3-1 shows a map of the Toledo TSP traffic study intersections. The project team analyzed existing and anticipated future traffic levels to determine which intersections are likely to be congested in the 20 year planning horizon. The results from the analysis identified congestion issues at US 20 and Business Loop 20 (west) that do not meet ODOT mobility targets or proposed City mobility standards. Appendix C: Transportation Deficiencies and Needs includes an in-depth analysis of congestion and vehicle backups. Table 4-6 in Chapter 4 includes City mobility standards.

FIGURE 3-1
Traffic Analysis Study Intersections



Map Source: ODOT

In 2035, without projects to improve conditions, the following intersections will not meet ODOT mobility targets or the proposed City mobility standards:

- US 20 at OR 229
- US 20 at Business Loop 20 (west)

There are also a number of places where vehicles back up beyond lanes and start to block driveways and intersections. Currently the following streets experience these backups:

- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at A Street – east- and westbound approaches

In 2035, these additional areas will have vehicle backups:

- US 20 at OR 229 – east- and southbound approaches
- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at Bay Boulevard – westbound approach
- Business Loop 20 at A Street – north-, east- and westbound approaches

Safety Conditions

Safety conditions at the junction of Business Loop 20 and OR 229 with US 20 were examined in response to community concern about safety at this location, known locally as the "Western Junction." Crash data from 2006-2010 show twelve crashes in the Western Junction study area. The project team identified the following commonalities between these crashes:

- Turning and angle crashes, which may be due to the inability of drivers to find appropriate traffic gaps from the minor (stop controlled) streets onto busier streets.
- Majority of crashes occur during the late afternoon/evening, when traffic volumes are generally highest.
- Crashes associated with behavioral contributing factors, such as "too fast for conditions," "distracted driving," and "careless driving."
- Crashes where an older driver is at fault.

The crash analysis based on available data does not match the magnitude of stakeholder and community safety concerns at the Western Junction. Stakeholder interviews and conversations with the community and PAC indicate that there are daily "near misses" at this intersection and it is important for the TSP to address safety at this location. An analysis of conditions at the Western Junction found that vehicles on Business Loop 20 and OR 229 have difficulty finding gaps in traffic on US 20 during peak periods, and that sight distance is limited by the angle of the intersections and curvature of the highway. Appendix C: Transportation Deficiencies and Needs includes the complete safety analysis at the Western Junction.

Freight Routes

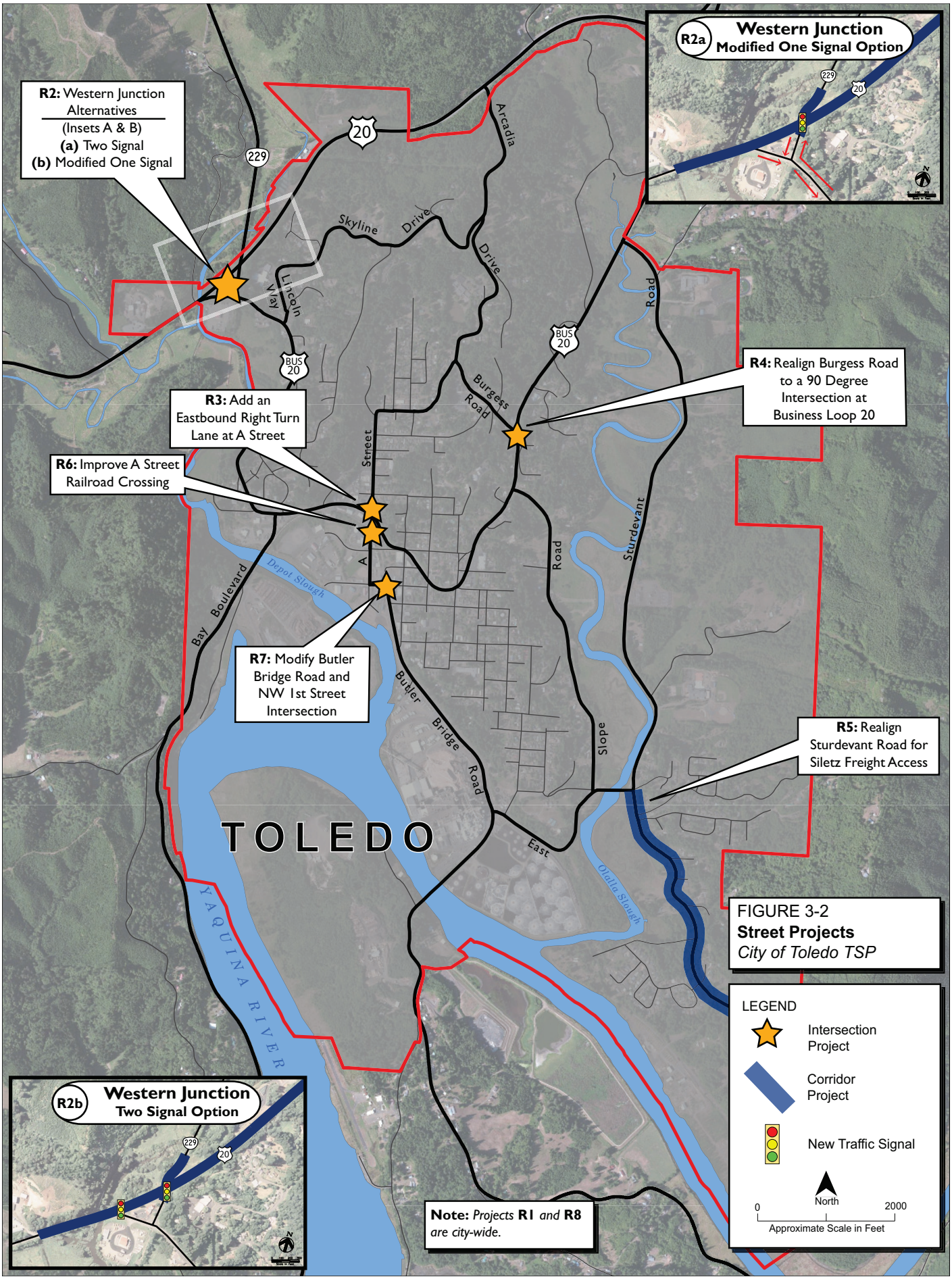
There are a number of freight routes serving industrial land within the City, on both arterial and collector streets. Stakeholders have indicated that trucks occasionally stray from the signed routes and then get stuck on steep or narrow streets not intended for freight traffic.

Freight Truck Operations

Toledo has a higher rate of truck traffic than other comparable cities due to the Georgia-Pacific site and a number of other businesses that serve freight truck customers. Trucks take longer to stop and start at stop signs/traffic signals which can increase congestion; the additional room needed for the vehicle and slower travel speeds, also factor into congestion. Trucks also have an impact on street surfaces and require more room to turn at intersections. Business Loop 20 northeast of Sturdevant Road, Sturdevant Road south of Business Loop 20, and Bay Boulevard had the highest percentages of truck traffic within the City; between 3 and 40 percent based on the street segment and direction.

3.1.2 Street System Projects

The following section documents street projects, including the Western Junction options carried forward into the TSP. Figure 3-2 shows the street network in Toledo with the TSP projects, including projects from the *Waterfront Connectivity Plan*.


R2a Western Junction
Modified One Signal Option
R2: Western Junction Alternatives
(Insets A & B)
(a) Two Signal
(b) Modified One Signal
R3: Add an Eastbound Right Turn Lane at A Street
R4: Realign Burgess Road to a 90 Degree Intersection at Business Loop 20
R6: Improve A Street Railroad Crossing
R7: Modify Butler Bridge Road and NW 1st Street Intersection
R5: Realign Sturdevant Road for Siletz Freight Access
TOLEDO
YAQUINA RIVER
Depot Slough
Olalla Slough
Arcadia Drive
Skyline Drive
Lincoln Way
Burgess Road
A Street
Bay Boulevard
Butler Bridge Road
East Slope Road
Sturdevant Road
20
229
BUS 20
R2b Western Junction
Two Signal Option
FIGURE 3-2
Street Projects
City of Toledo TSP
LEGEND
Intersection Project
Corridor Project
New Traffic Signal
North
0
2000
Approximate Scale in Feet
Note: Projects R1 and R8 are city-wide.

R1: Freight Route Signage

This TSP does not include any modifications to the City's existing freight route. The City recognizes the importance of freight to the community and economic development within the City.

- **Freight Route Signage:** Add signs to reduce the amount of trucks on inappropriate or undesignated routes to help direct freight truck traffic to designated routes. This includes additional signs along US 20 towards Business Loop 20 guiding trucks to the Truck Route and larger signs at the Business Loop 20 and Sturdevant Road intersection to directing truck drivers to turn. This includes adding "No Trucks" signs on streets frequently mistaken by truck drivers, such as Arcadia Drive and in downtown Toledo.

Figure 3-3 shows the freight truck route in Toledo.

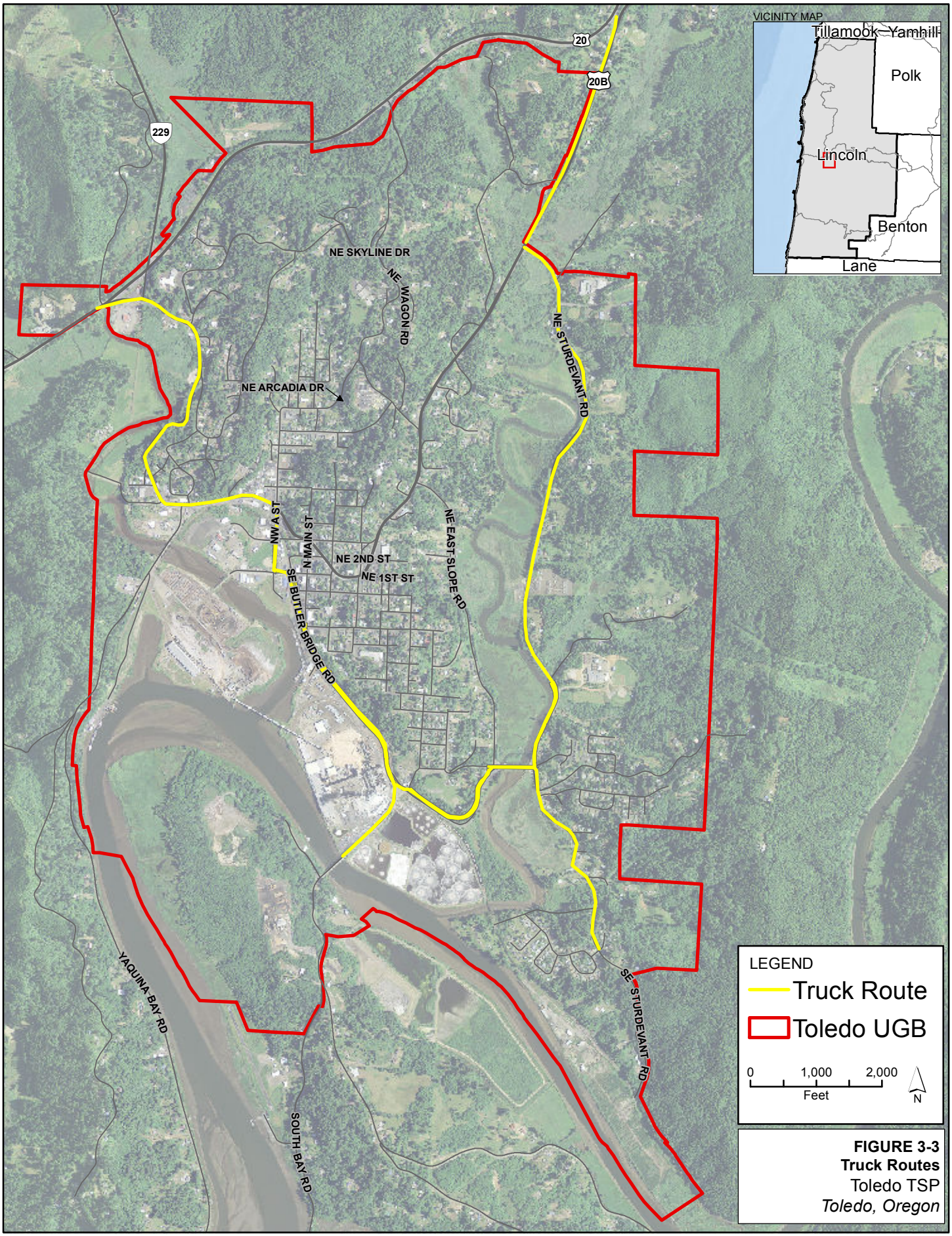


FIGURE 3-3
Truck Routes
Toledo TSP
Toledo, Oregon

R2a and R2b: Western Junction Signalization

The Western Junction refers to the intersection of Oregon Highway (OR) 229 and Business Loop 20 with US Highway (US) 20 within the northwest portion of the Toledo Urban Growth Boundary (UGB). Stakeholders and the existing conditions analysis identified congestion issues, queuing problems, and safety concerns at the group of intersections at the Western Junction. Appendix C: Transportation Deficiencies and Needs includes an in-depth analysis of operations and safety at the Western Junction intersections in their current configuration, as well as alternative improvements considered for the Western Junction during development of this TSP.

US 20, US 20 Spur, and OR 229 are owned and operated by ODOT, while Business Loop 20 is owned by the City. This TSP reflects the City's preferred measures to improve the Western Junction, but further design and analysis will be needed and approval by ODOT will be required to move any project into construction. The City will remain an active participant in developing alternatives to improve congestion and safety at the Western Junction.

Two options for signals at the Western Junction are included for future consideration:

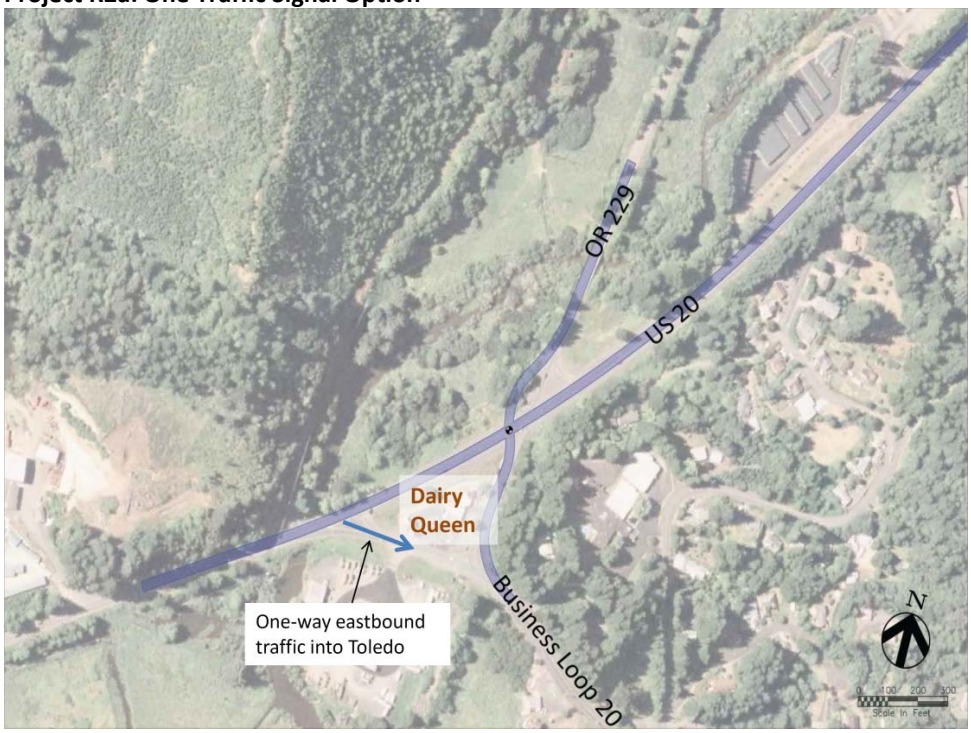
- **R2a:** One Traffic Signal Option (at OR 229/US 20/US 20 Spur)
- **R2b:** Two Traffic Signal Option (at OR 229/US 20 Spur and Business Loop 20/US 20)

Signals and the associated intersection changes would address the existing and future congestion and vehicle backup issues identified in the traffic analysis and would simplify the intersections to reduce driver confusion. These two options were modified from a previous one signal option that realigned OR 229 and Business Loop 20 to one point between the existing OR 229 and Business Loop 20 intersections with US 20. The project team refined signalization options for the Western Junction based on PAC recommendations and community feedback to avoid potential business impacts

Both options for the Western Junction would use existing street connections to minimize access and business impacts and both options require widening US 20 between Arcadia and Western Junction to create a consistent cross-section, as two lanes in each direction are needed at the signals to accommodate expected future traffic volumes. Any new traffic signals will need to meet signal warrant criteria before being implemented. ODOT will conduct additional traffic signal warrant analysis when refining these options for design and construction.

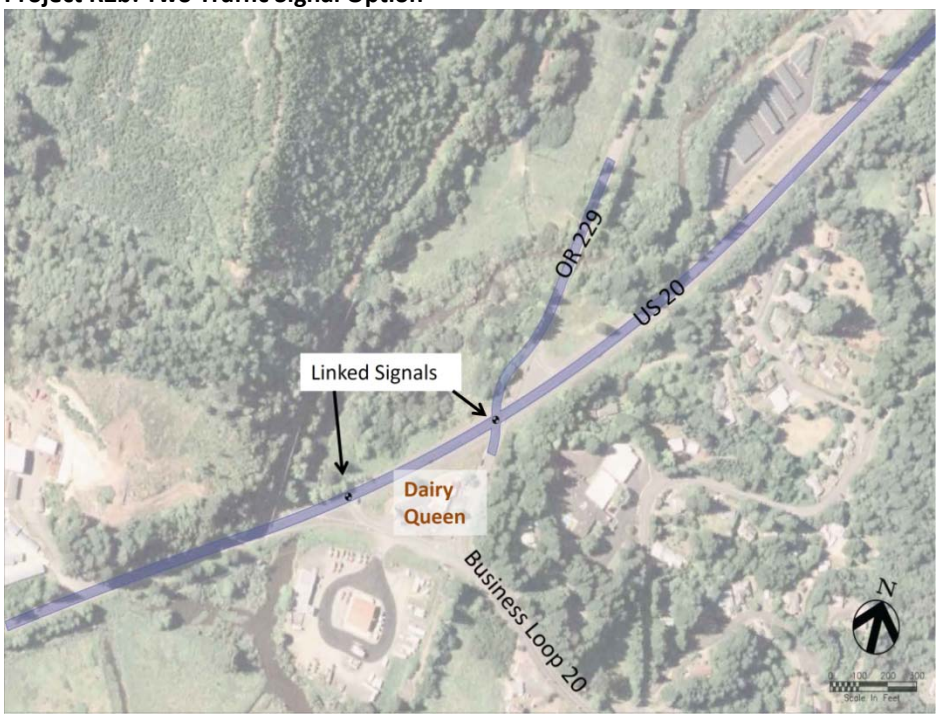
- **R2a:** The one traffic signal option would add a signal at the existing US 20/OR 229/US 20 Spur intersection. The eastbound slip ramp from US 20 to Business Loop 20 would remain, but is modified for one-way traffic while preserving access to the Dairy Queen and trucking business on the south side of Business Loop 20. Vehicles making the westbound left turn from Business Loop 20 to US 20 would use the signal. This option modifies OR 229 to reduce the angle where it meets US 20. Figure 3-4 shows the one traffic signal option at Western Junction.

FIGURE 3-4
Project R2a: One Traffic Signal Option



- **R2b:** The two traffic signal option would install two coordinated signals on US 20, the first at the OR 229/US 20 Spur intersection and the second at the Business Loop 20/US 20 intersection; keeping the connections in the same configuration as today. Figure 3-5 shows the two signal option, which was developed to provide more flexibility in case design of Project R2a negatively affects business access in the vicinity of the Western Junction, as it maintains two-way traffic on the existing Business Loop 20 connection from US 20.

FIGURE 3-5
Project R2b: Two Traffic Signal Option



R3: Business Loop 20 at A Street – Turn Pocket

The eastbound Business Loop 20 leg at A Street will be congested for eastbound lefts and through traffic. The westbound left turn lane will also be congested. The northbound leg will also be mildly congested, though the project team was concerned that backups will extend beyond the railroad crossing south of Business Loop 20.

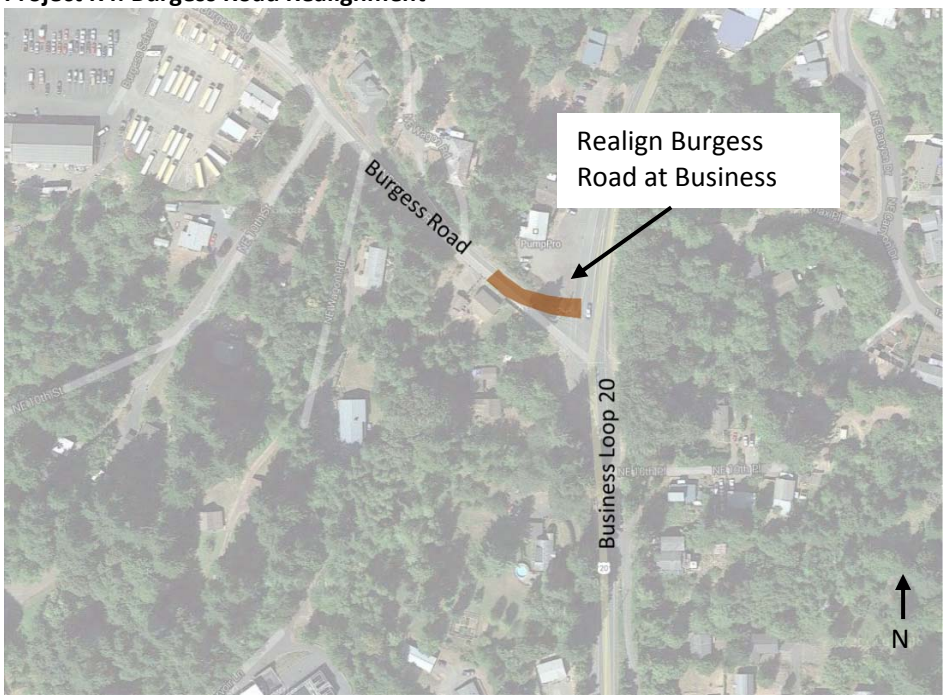
Due to the slopes nearby at this intersection, improvement options are limited. This project lengthens the eastbound left turn lane to 200 feet and adds a 150-foot eastbound right turn lane. Lengthening the left turn lane will provide space for vehicles to line up without blocking the through movement on Business Loop 20. The right turn lane will help vehicles move through the intersection more quickly and allow for some green time to be allocated to other legs. Figure 3-6 shows the location of the new turn lane.

FIGURE 3-6
Project R3: A Street Turn Pocket

R4: Burgess Road Realignment

Burgess Road meets Business Loop 20 at a steep angle, potentially creating a safety issue for vehicles making turns onto Business Loop 20. Realigning Burgess to meet Business Loop 20 at a 90 degree angle would reduce the angle and address potential safety issues. Realigning Burgess could impact nearby properties at the intersection and would require retaining walls or fill because of the hillside and grade of the existing street. This project would have only minor impacts to Business Loop 20. This project modifies Burgess Road as shown in Figure 3-7.

FIGURE 3-7
Project R4: Burgess Road Realignment

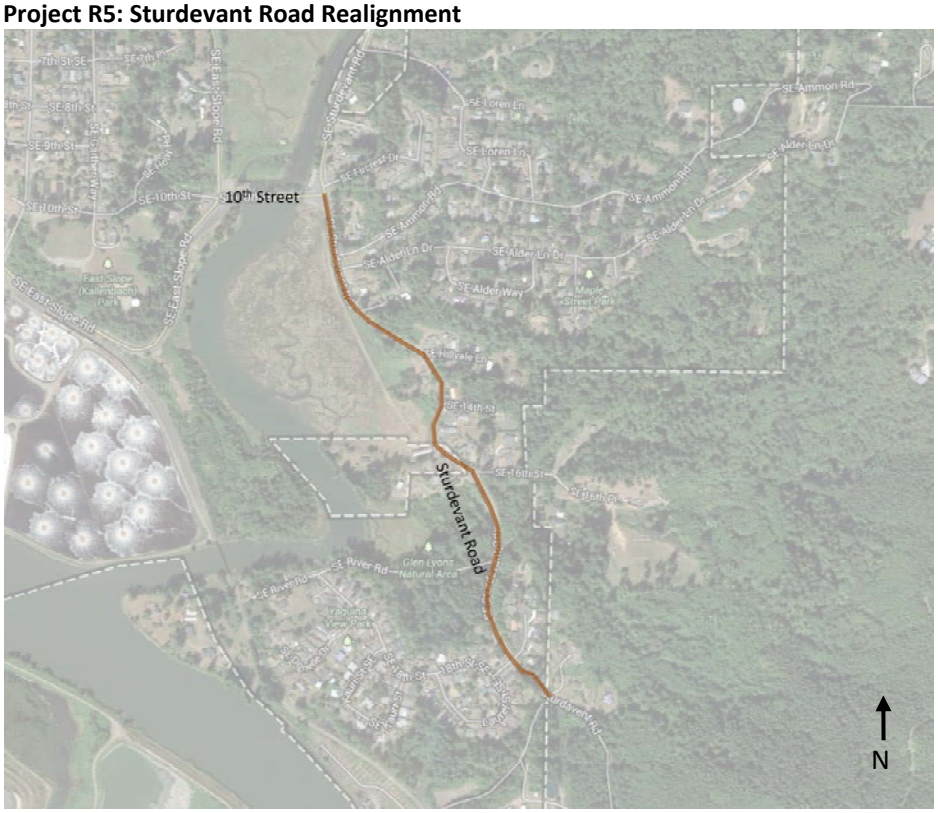


R5: Sturdevant Road Realignment

This project reduces the curves on Sturdevant Road south of SE 10th Street to the Siletz Kiln Site along the river. Realigning the street would allow larger trucks to access the kiln site to move materials and finished products into and out of the site. Currently, Sturdevant Road is narrow and curving; this project would reduce the curves and add shoulders to accommodate freight truck traffic. Figure 3-8 shows the extent of the project along Sturdevant Road south of SE 10th Street.

Reducing curves on Sturdevant Road could have right-of-way impacts to the adjacent neighborhoods. During the design phase of this project, those impacts should be considered, and the project should be designed to mitigate impacts to the neighborhood and maintain or improve the quality of life in the neighborhoods.

FIGURE 3-8
Project R5: Sturdevant Road Realignment



R6: A Street Railroad Crossing Improvements

The *Toledo Waterfront Connectivity Plan* includes a project to improve the railroad crossing pavement surface for motorists, bicyclists, and pedestrians by installing concrete panels on A Street south of Business Loop 20. Figure 3-9 shows the location of the railroad crossing improvements.

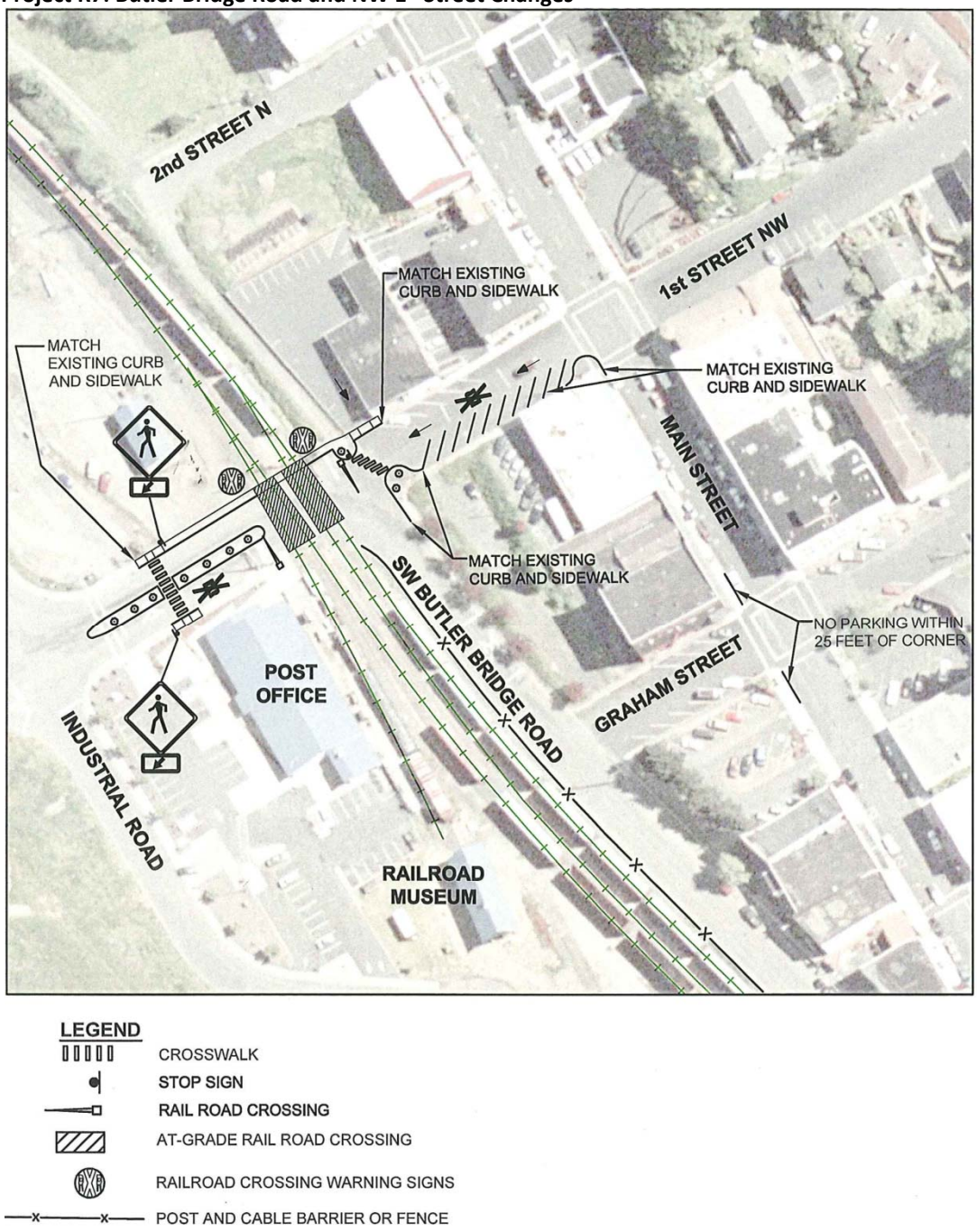
FIGURE 3-9
Project R6: A Street Railroad Crossing Improvements

R7: Butler Bridge Road and NW 1st Street Changes

The *Toledo Waterfront Connectivity Plan* includes a project to improve visibility, increase safety for pedestrians and motorists, and reduce conflict points at this intersection. The project converts NW 1st Street from a two-way to a one-way street westbound between Main Street and Butler Bridge Road. This project removes vehicle conflicts and emphasizes the dominant flow of traffic (turning east on NW 1st from A Street and then south on Butler Bridge Road, then north on Butler Bridge Road onto NW 1st and north onto A Street) and addresses visibility issues for motorists stopped eastbound. Currently rail car storage reduces sight distance at the

intersection. Eastbound drivers would be able to access Main Street one block south at NW Graham Street. The project also includes curb extensions at the intersection, a 10-foot wide ladder style crosswalk across NW 1st Street, and directs pedestrians to and improved crosswalk on the north side of the intersection, deterring them from crossing on the south side. The eastbound stop sign on NW 1st Street at the railroad tracks would be removed, as all traffic would continue south on Butler Bridge Road. Figure 3-10 shows the modifications from the *Waterfront Connectivity Plan*. This project also includes pedestrian elements, described in the sections below.

FIGURE 3-10
Project R7: Butler Bridge Road and NW 1st Street Changes



From the Toledo Waterfront Connectivity Plan 2009. Prepared by Parametrix.

R8: Wayfinding Resources

Downtown Toledo is off of US 20 and visitors are not always certain where the City center or other attractions are located. Wayfinding resources will help visitors traveling by all modes (vehicles, bicycles, and on foot) from Toledo's outer areas into downtown and to other City attractions.

- **Wayfinding signs:** Install wayfinding signs from the edges of the City into downtown and to other areas of interest for all modes including vehicles, bicyclists, and pedestrians.

3.1.3 Street System Project Cost Estimates and Prioritization

Table 3-1 provides cost estimates and priorities for each of the proposed street and freight projects. Several projects are from the *Waterfront Connectivity Plan* adopted in 2009 and their cost estimates are indexed for inflation using ODOT cost escalation rates.

TABLE 3-1
Street System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
R1	Freight Route Signage Improvements – Citywide	$12,000	Short-term	Street Fund, STIP, *LID*	City
R2a	Western Junction - One Traffic Signal Option	$7,144,000	Long-term	STIP, Street Fund, OTIB, *Bonds*	ODOT, City, Lincoln County
R2b	Western Junction – Two Traffic Signals Option	$8,098,000			
R3	Business Loop 20 - Eastbound Right Turn Pocket at A Street	$449,000	Medium-term	Street Fund, *LID*, STIP	City
R4	Burgess Road Realignment to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term	Street Fund, *LID*, STIP	City
R5	Sturdevant Road – Road Realignment for Siletz Site Freight Access	$595,000	Long-term	Street Fund, STIP *LID*, *SDC, Bonds*	County, City, Siletz Tribe
R6	A Street Railroad Crossing[2]	$176,000	Short-term	Street Fund, Bike/Ped Fund, *LID*, PNWR	City, PNWR, ODOT Rail
R7	Butler Bridge Road and NW 1st Street Intersection changes [2 3]	$51,000	Short-term	Street Fund, *LID*	City
R8	Wayfinding signs	$10,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City

Notes:

1 STIP includes all funded categories.

2 This project is in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and grew the estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04 percent.

3 This project from the *Waterfront Connectivity Plan* combines pedestrian, street, and rail improvements into one project. The plan did not break down the cost of each improvement.

Funding sources in *italics* are sources not currently used by the City

LID – Local Improvement District

STIP – Oregon Statewide Transportation Improvement Program

SDC –System Development Charge

OTIB – Oregon Transportation Infrastructure Bank

PNWR – Portland and Western Railroad

3.2 Transit Plan

3.2.1 Existing Transit

The City of Toledo has two transit routes, one operated by Lincoln County Transit and the Coast to Valley Express, managed by the Northwest Oregon Transit Alliance, a consortium of transit agencies that includes Lincoln County Transit.

Lincoln County Transit

Lincoln County Transit's East County Route connects to Siletz and Newport through Toledo. The East County Route operates six days a week with five stops westbound and four stops eastbound in Toledo. The service operates six round trips per day.

The stops are located at the following locations in Toledo, from west to east:

A. Food Fair (Business Loop 20 east of NW Forestry Road)

B. NE 1st and Main Street

C. SE 2nd and Main Street (Westbound only)

D. JC Thriftway (Business Loop 20 and NE 2nd Street)

E. Olalla Store (Sturdevant Road and SE 10th Street)

In addition, Lincoln County Transit accommodates "flag stops" where riders are able to flag down the driver and board the bus along the route at safe locations. Riders do not have to be at a stop to be picked up or dropped off by a Lincoln County Transit vehicle. The City has recently improved Toledo bus stops; the Park and Ride has a gazebo, while all of the East County Route stops have bus shelters and benches with the exception of the Food Fair stop on Business Loop 20.

Riders most commonly request later service hours in the evening and more frequent service during the day for riders who work nonstandard hours. Currently, buses arrive an hour and 15 minutes to three hours apart depending on the time of day, with the last bus departing Toledo at 7:30 PM westbound and 8:48 PM eastbound. The East County Route does not operate on Sundays.

Coast to Valley Express

The regional Coast to Valley Express serves the City, connecting Albany, Corvallis, and Newport. The Express runs seven days a week with one stop at the Toledo Park and Ride and operates four round trips per day. There are two bus runs in both the morning and evening peak period; the last bus leaves at 5:40 PM heading eastbound and 7:03 PM heading westbound. Figure 3-11 shows the transit routes within the City.

3.2.2 Transit Projects

There is one transit project in the Toledo TSP. This project would add a bus shelter at the Food Fair Stop, the only stop in Toledo that currently does not have a shelter.

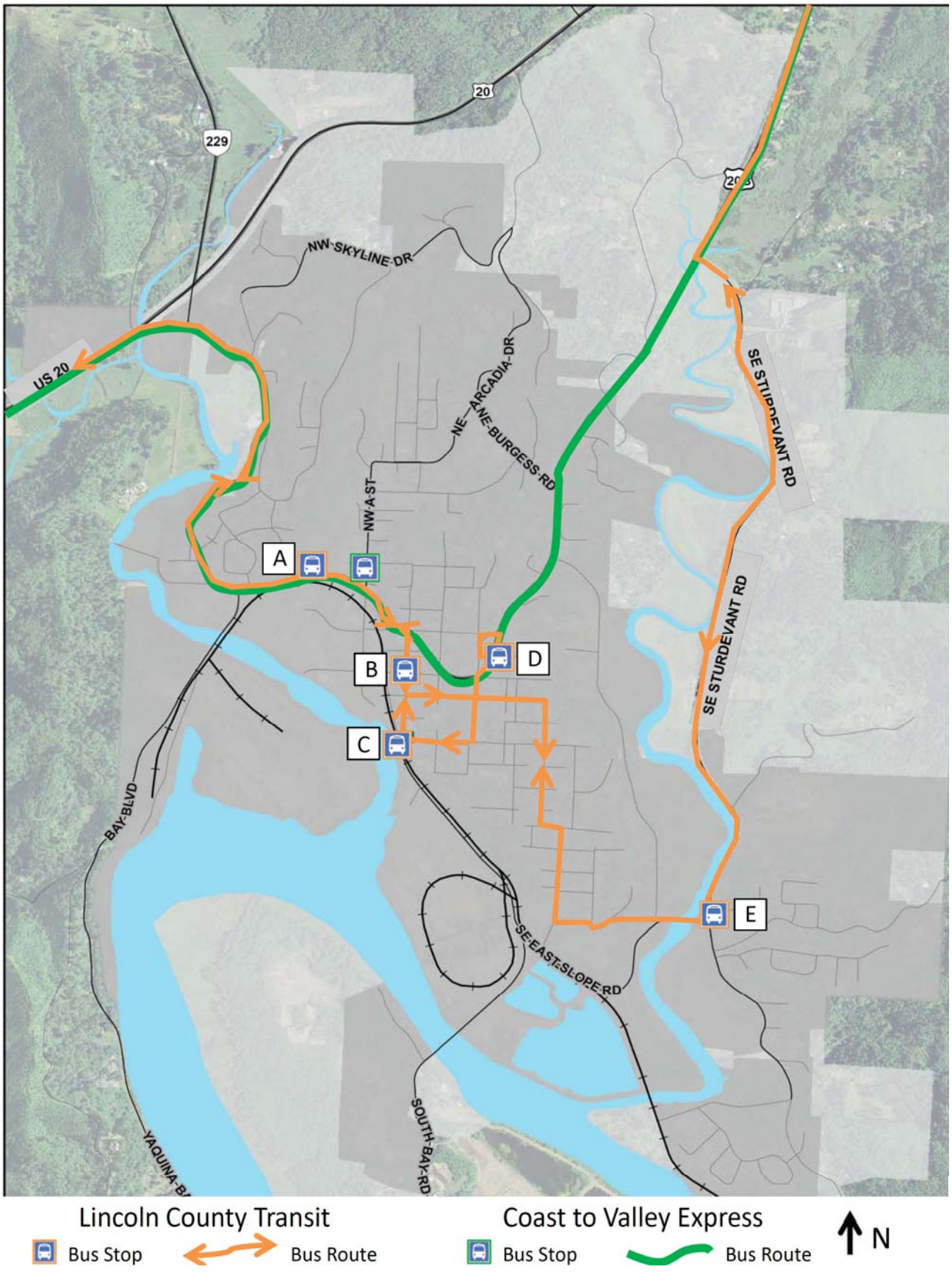
Example of a bus shelter

TABLE 3-2
Transit Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source	Lead Agency/ Project Partners
T1	Add a bus shelter at the Food Fair Stop	$5,000	Medium-term	FTA 5310	City, Lincoln County Transit

FIGURE 3-11

Toledo Transit Routes



3.3 Bicycle and Pedestrian Plan

The City of Toledo has an existing pedestrian and bicycle network that serves local residents and employees, downtown visitors, and long-distance bicyclists. This section describes the potential objectives and projects for the Toledo TSP to address current deficiencies and needs. The project team developed these alternatives with input from stakeholders and community members, as well as including several projects from the *Waterfront Connectivity Plan.* Figure 3-12 shows the map of the bicycle, pedestrian, and multi-use path network.

3.3.1 Bicycle and Pedestrian Existing Conditions

There are two signed bike routes in Toledo and only one street with striped bike lanes. Steep and narrow streets make bicycling and walking difficult, though there are sidewalks in the downtown core and along the central portions of Business Loop 20. Stakeholders indicated that there are gaps in the sidewalks network and a need for a multi-use path along Sturdevant Road to serve both Toledo Elementary and Junior/Senior High Schools. In addition to these gaps, stakeholders identified that railroad crossings are difficult for bicyclists and pedestrians, especially the crossing on NW 1st Street and Butler Bridge Road.

3.3.2 Bicycle and Pedestrian System Needs

Overall, Toledo has a number of challenges to providing comprehensive pedestrian and bicycle connections due to the City's geography. Many streets are narrow and have sharp curves and steep grades because of natural features such as the river, sloughs, and slopes. The sidewalk network in Toledo is most complete in downtown and becomes piecemeal further away from Main Street. Outside of downtown, many arterials and collectors lack sidewalks, such as Business Loop 20 outside of the core commercial areas (east of JC Thriftway and west of NW 6th Street). Some streets have sidewalks on one side of the street. There are few officially striped pedestrian crossings along most streets and the railroad tracks.

Improved pedestrian access to the Toledo Elementary and Junior/Senior High Schools is a community priority. The lack of a path or sidewalk along Sturdevant Road is a major concern due to the 45 MPH speed limit and high truck traffic. There are also limited east-west connections between downtown and Sturdevant Road; some students walk along the shoulder of Business Loop 20 from the central neighborhoods to school. In addition, community members are concerned with the lack of pedestrian facilities near the Flowerree Community Center at SE 3rd and Douglas streets. Another priority for local residents is connecting the existing path along East Slope Road to Butler Bridge Road.

Two bike routes exist in Toledo; Bay Boulevard and East Slope Road between 10th Street and Business Loop 20. However, the routes do not provide a continuous route through the City. Bay Boulevard is popular among bicycle clubs for the route to and from Newport, though the lack of bicycle lanes and steep grades create safety concerns for riders. There are also no wayfinding signs and the steep local streets can also discourage cycling in Toledo.

3.3.3 Bicycle and Pedestrian Projects

The following projects address the following bicycle and pedestrian deficiencies in the City: sidewalk gaps, crosswalks, pedestrian wayfinding signs, trail network, and bicycle wayfinding signs.

Address Sidewalk Gaps

There are several gaps in the sidewalk network in Toledo that were identified as major community needs. Filling these sidewalks gaps would improve the pedestrian network and enhance access to important destinations.

- **BP1: Burgess Road Sidewalk** between Arcadia Drive and Business Loop 20. There is currently a short sidewalk on the west side of the street in front of the fire station, but the segment does not connect to Arcadia Drive or Business Loop 20. This sidewalk would connect to marked pedestrian crossings on both Arcadia Drive and Business Loop 20.

- **BP2: Business Loop 20 Sidewalk** from East Slope Road to Sturdevant Road. Currently there is a sidewalk on the east side of the street that ends at East Slope Road. Students walk along Business Loop 20 to Sturdevant Road to access Toledo Elementary and Junior/Senior High Schools. Runners, walkers, and the high school cross country team also use this route.
- **BP3: Douglas Street/SE 3rd Street Sidewalk** around Flowerree Community Center. The Community Center is surrounded by Beech, Douglas, SE 3rd, and SE 4th Streets in southeast Toledo. This block does not have sidewalks except along SE 3rd Street. However, SE 3rd and Douglas Streets both have sidewalks on the opposite side of the street.
- **BP4: East Slope Road Sidewalk**. Currently, the East Slope Road trail ends at East Slope Park. This project would extend a sidewalk on one side of the street to Butler Bridge Road at the Georgia-Pacific site and would improve connections between east Toledo and the downtown waterfront. The current path starts at the intersection of SE 10th Street and East Slope Road and runs along the east side of East Slope Road. However, the trail does not connect to Butler Bridge Road, ending at the sharp curve near the railroad.

  In January 2013, the Public Works Department received approval from the Toledo City Council to apply for a state grant to construct a sidewalk to Butler Bridge Road. This sidewalk could eventually connect to the planned Sturdevant Road Trail to create a continuous link on the east side of Toledo for commuting and recreational purposes.
- **BP5: A Street Sidewalk** between Business Loop 20 and NW 1st Street. The existing sidewalk on the west side of the street is narrow and in poor condition. This project would replace and repair existing sidewalk with an 8-foot concrete sidewalk to accommodate higher traffic near Memorial Park. This project is from the *Toledo Waterfront Connectivity Plan*.
- **BP6: Bay Boulevard Sidewalk** between Depot Slough Bridge and Business Loop 20. Currently Bay Boulevard lacks pedestrian facilities along this section. This project would construct a new 8-foot sidewalk on the east side of Bay Boulevard to provide greater pedestrian access. This project does not include a new at-grade railroad crossing that would connect the sidewalk with a new bicycle/pedestrian bridge at Depot Slough and to the Waterfront Path. This project is from the *Waterfront Connectivity Plan*.

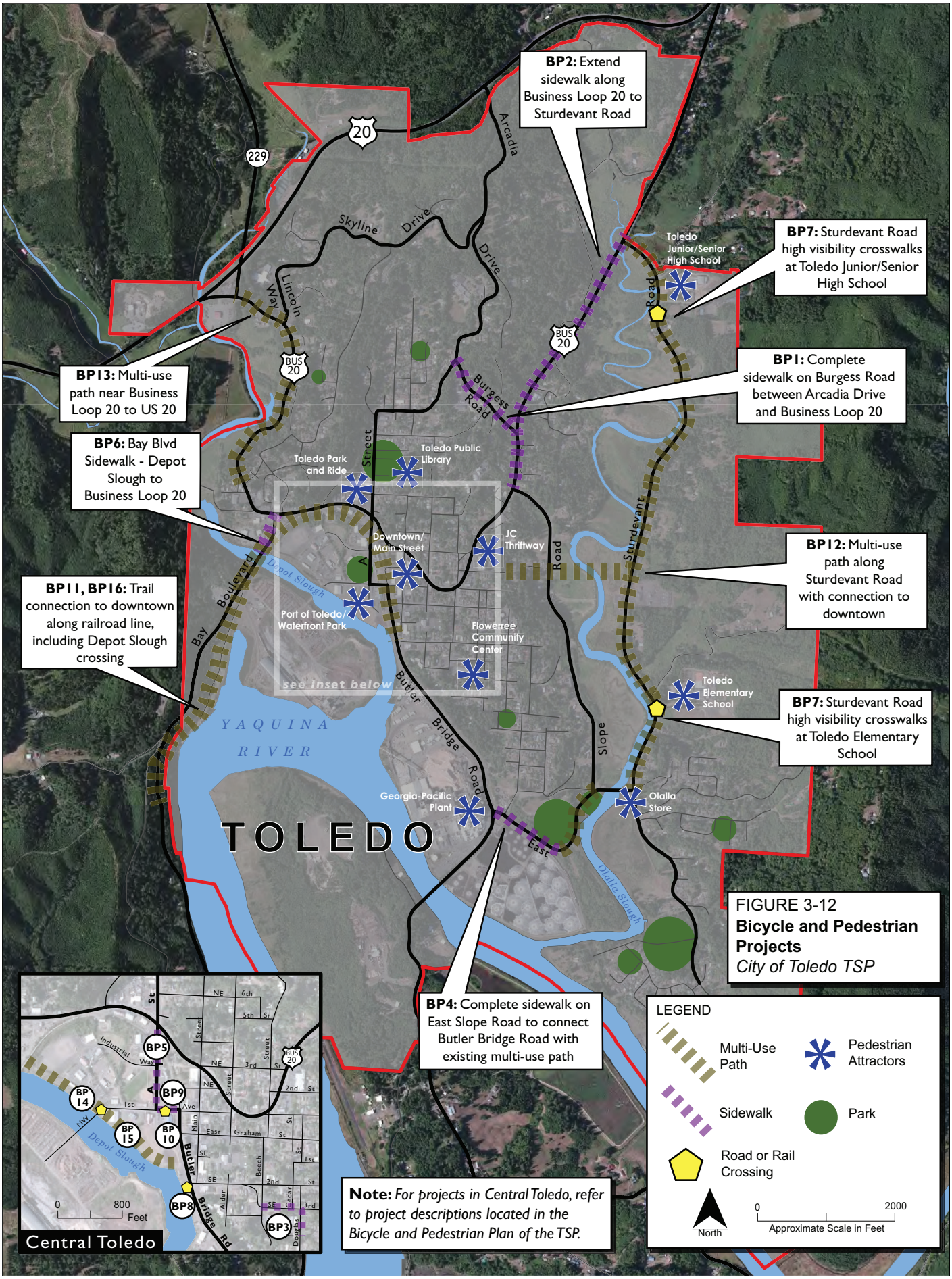


FIGURE 3-12
Bicycle and Pedestrian Projects
City of Toledo TSP

Crosswalks

Targeted crosswalk improvements help increase pedestrian visibility and safety. The following projects would include advisory and warning signage, crosswalk markings, and in some cases, flashing lights.

Example of a high visibility pedestrian crossing (FHWA)

- **BP7: School Pedestrian Crossings.** Add high visibility crosswalks at the entrance to Toledo Elementary and Junior/Senior High Schools. These crossings would be built together with the proposed multi-use path or boardwalk trail along Sturdevant Road (described in the Trail Network section below).
- **BP8: Vehicle signs and markings.** Discourage vehicles from using the pedestrian crossing at 2nd Street and Butler Bridge. The new railroad pedestrian crossing can be confusing for drivers; adding signage and pavement markings to discourage vehicles from using the pedestrian-only railroad crossing would reduce confusion and maintain the crossing for pedestrians only.
- **BP9: NW 1st Street Crosswalk.** Install a 10-foot wide, mid-block crosswalk on NW 1st Street between A Street and Butler Bridge Road. This project was included in the *Toledo Waterfront Connectivity Plan* and includes a new 8-foot wide median with vegetation on NW 1st Street, a rebuilt 6-foot sidewalk on the north side of NW 1st Street, and new concrete rail panels at the railroad crossing. The project includes adding crosswalk and railroad crossing warning signs along NW 1st Street. The project would also close the south crosswalk at NW 1st Street and Butler Bridge Road to reduce traffic conflicts and safety issues. The new median and crosswalk would create a more visible crossing and would reduce overall crossing distance.
- **BP10: Fencing to direct pedestrian traffic.** This project would install a 4-foot cyclone fence on the west side of Butler Bridge Road from NW 1st Street to SW 2nd Street. This project, from the *Toledo Waterfront Connectivity Plan* would channel pedestrian traffic to designated railroad crossings to prevent unauthorized track crossing.

3.3.4 Trail Network

The following is an overview of projects and objectives for a multi-use path system in Toledo. These trail projects will accommodate both bicyclists and pedestrians; bicycle-specific projects and objectives are included in the next section. Trails are shared-use paths designed for both transportation and recreation purposes and are typically between 8 to 14 feet wide.

Example of a paved multi-use path

- **BP11: Construct a trail along Bay Boulevard/Yaquina Bay Road.** In 2012, Lincoln County submitted a grant application to the Oregon Department of Transportation for a new multi-use trail that bypasses the steep and narrow section of Bay Boulevard in Toledo. The proposed trail uses the nearby former rail bed and would travel through the Port of Toledo's boatyard facility. The project included a new trail along Altree Lane with improvements to a nearby railroad crossing before rejoining with Bay Boulevard. The Port of Toledo does not support the current trail route, due to safety concerns with bicyclists and pedestrians passing through the active boatyard. The narrow property and high traffic area for trucks and heavy machinery create safety concerns for trail users and potential impacts to boatyard operations. The City will need to work with Lincoln County and Port of Toledo to consider alternatives to the proposed trail that does not impact boatyard operations and addresses the safety concerns with the existing proposed route.

- **BP12: Construct a multi-use trail along Sturdevant Road.** A sidewalk or trail would address the lack of pedestrian connections between downtown and the Toledo Elementary and Junior/High Schools. The freight route designation and the location of the two schools attract a number of different street users such as freight trucks, bicyclists, and pedestrians, many of whom are school children. In addition, there is little room next to the street to build sidewalks.

  
  Example of a boardwalk

  This project includes a multi-use path and/or boardwalk along the west side of Sturdevant Road. This path may be constructed as a boardwalk near Olalla Slough in areas where there is not enough room to build next to the street. The trail would include multiple connections to Sturdevant Road including marked crosswalks with signage and lights (the school pedestrian crossing project) at the local schools. An east-west connection across Olalla Slough to NE 2nd Street would be included to allow access between Sturdevant Road and downtown. The trail could be designed as a nature walk with interpretive signs and displays to educate users about the wildlife and habitat of the Olalla Slough, serving both a transportation and education purpose.

  Boardwalks require more funding for maintenance and upkeep than regular asphalt or concrete paths. The wood surface and support beams need replacing more often, and the surface will need to be cleaned to ensure that it does not get too slippery. The City could work with a volunteer group to help with regular maintenance and upkeep to help reduce costs.

- **BP13: Business Loop 20 Trail.** Create a continuous bicycle and pedestrian connection along Business Loop 20 from US 20 to NW 6th Street. Business Loop 20 does not have room to construct a sidewalk for the entire length between NW 6th Street and US 20, this project includes constructing a sidewalk where possible and a separate multi-use trail or boardwalk facility on the west side of the street where there is no room for a sidewalk. The trail would be on boardwalk where there are wetlands concerns or near Depot Slough and would provide a dedicated facility for bicycles and pedestrians. See Project BP12 for information about maintenance and upkeep on boardwalks.

- **BP14: Waterfront Path.** The Waterfront Path is a 10- to 12-foot shared-use asphalt trail that would provide a recreational connection from the Butler Bridge Road parking lot to NW 1st Street and then from NW 1st Street to the railroad tracks next to Bay Boulevard. The path would provide continuous pedestrian and bicycle connections, improve access to the waterfront and downtown from surrounding neighborhoods, and provide connections to and from regional bicycle touring routes. The section of the path from the railroad/Bay Boulevard east to a point just west of NW 1st Street near of the waterfront pavilion is complete. The section between NW 1st Street and the pavilion still needs to be finished. There are challenges to connecting to Bay Boulevard, including how to cross the railroad tracks – an at-grade railroad crossing would conflict with railroad operations, and the Waterfront Connectivity Plan recommends a bridge or exploring an at-grade crossing

- **BP15: NW 1st Street and Waterfront Path Crossing.** This project is included in the *Waterfront Connectivity Plan* and would cross NW 1st Street at the planned Waterfront Path. The project includes a 10-foot wide crosswalk across NW 1st Street, removable bollards at the path/boardwalk intersection at NW 1st Street, and a 14-foot wide boardwalk west of NW 1st Street near the electrical substation with metal decking, asphalt surfacing, and railings. The project also includes a 6-foot wide sidewalk on the south/east side of NW 1st Street from the crosswalk to the Port of Toledo office. In addition, the project would install speed humps and warning signage in advance of the crosswalk on NW 1st Street.

- **BP16: Depot Slough Crossing.** Currently, there are no dedicated bicycle and pedestrian facilities across Depot Slough on Bay Boulevard, which is a signed bicycle route. The *Toledo Waterfront Connectivity* Plan includes a project to construct a new bicycle/pedestrian bridge immediately to the east of the railroad bridge. The timber-framed crossing would be 14 feet wide and would connect with the future Waterfront Path. The project also includes a new 6-foot concrete sidewalk on the east side of Bay Boulevard south from Depot Slough and an 8-foot asphalt shared use path south of the new bicycle/pedestrian crossing to Altree Lane and could also connect with the planned Bay Boulevard trail. The project includes a fence to separate the path from the railroad tracks, and a new pedestrian crossing with concrete panels and signage.

3.3.5 Bicycle and Pedestrian Project Cost Estimates and Prioritization

Table 3-3 provides cost estimates and priorities for each of the proposed bicycle, pedestrian, and multi-use path projects. Several projects are from the *Waterfront Connectivity Plan* adopted in 2009 and their cost estimates are indexed for inflation using ODOT cost escalation rates.

TABLE 3-3
Bicycle and Pedestrian System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
BP1	Burgess Road – Fill sidewalk gaps	$172,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP2	Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term	Bike/Ped Fund, Bonds, *LID*	City, School District
BP3	Douglas Street and 3rd Street near the Community Center – fill sidewalk gaps	$63,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP4	East Slope Road sidewalk extension	$551,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP5	A Street Sidewalk Rebuild – Business Loop 20 to NW 1st Street[2]	$105,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP6	Bay Boulevard Sidewalk – Depot Slough to Business Loop 20[2]	$108,000	Medium- to long-term	Street Fund, Bike/Ped Fund, *LID*	City
BP7	Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Short-term	County, Bike/Ped Fund, *LID*	City, County, School District
BP8	Railroad Pedestrian Crossing Improvements to Discourage Automobile Use - Butler Bridge Road at SE 2nd Street	$11,000	Short-term	Bike/Ped Fund, *LID*	City
BP9	NW 1st Street Median, Midblock Crosswalk, and North Sidewalk/Grade Crossing Improvements[2 3]	$558,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP10	Butler Bridge Road Railroad Fencing – NW 1st Street to SW 2nd Street[2]	$27,000	Short-term	Bike/Ped Fund, *LID,* PNWR	City

TABLE 3-3
Bicycle and Pedestrian System Project Cost Estimates and Prioritization

Project No.	Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Lead Agency/ Project Partners
BP11	Trail along Bay Boulevard/Yaquina Bay Road	$817,000	Long-term	STIP, County, Bike/Ped Fund, Bonds, *LID*	County, City
BP12	Multi-Use Trail – Sturdevant Road	$4,227,000	Long-term	Bike/Ped Fund, Bonds, *LID*	City, County, School District
BP13	Business Loop 20 Multi-use Trail (South/West Side) – US 20 to NW 6th Avenue	$2,675,000	Long-term	STIP, Bike/Ped Fund, Bonds, *LID*	City
BP14	Waterfront Path: East Section (between NW 1st Street and Butler Bridge Road)[2]	$278,000	Short-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP15	Waterfront Path: West Section between Bay Boulevard and NW 1st Street (Includes NW 1st Street Crossing and Boardwalk)[2]	$872,000	Medium- to long-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP16	Bay Boulevard – Depot Slough Bicycle/Pedestrian Crossing	$1,660,000	Medium- to long-term	STIP, Bike/Ped Fund, Bonds, *LID*	City

Notes:

1 STIP includes all funded categories.

2 This project is in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and grew the estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04 percent.

3 This project from the *Waterfront Connectivity Plan* combines pedestrian, street, and rail improvements into one project. The plan did not break down the cost of each improvement.

Funding sources in *italics* are sources not currently used by the City

LID – Local Improvement District

STIP – Oregon Statewide Transportation Improvement Program

3.4 Port and Water Transportation Plan

The City of Toledo's multimodal transportation system features water transportation facilities including a functional port. The Port of Toledo operates west of downtown and provides moorage, ship repair facilities, and industrial space to businesses. The Port currently has an 85-ton travel lift and 200-ton floating drydock on site at the Sturgeon Bend boatyard facility. There is also a boat launch near the Toledo Airport. No freight is unloaded or offloaded at the Port, although the Yaquina River is a navigable and dredged waterway. The Port has recently completed a transient dock and has just adopted its *Boatyard Buildout Plan*, which includes a number of projects described below.

3.4.1 Port Projects

Support efforts by the Port of Toledo to implement elements of the Port 2012 *Strategic Business Plan* including:

- A new 300 ton travel lift
- Construct a new mobile lift pier, replacing the current drydock pier
- Construct a wash-down pad
- Relocate Utilities: move street, power poles, and connect to city sewer
- Establish Tokyo Slough upland area for hard moorage
- Construct a vessel sandblast and paint building, to allow year-round work
- A rail cargo transfer area adjacent to railroad

These projects would be implemented in three phases:

Phase 1

- Replace piles and construct new pier for travel lift
- Construct a wash-down pad
- Relocate utilities/site preparation
- Purchase travel lift

Phase 2

- Upgrade site access street, realign utilities, and develop cargo transfer and vessel hard moorage areas

Phase 3

- Construct vessel work building
- New boatyard office and restrooms

Benefits of these upgrades include increased environmental stewardship through new efficient equipment and infrastructure improvements, the ability to lift and service larger boats, the ability to handle more than two large boats at once, and year-round ability to sandblast and paint. Table 3-4 includes the cost estimates and prioritization for Port projects.

3.4.2 Port Project Cost Estimates and Prioritization

The following is the list of cost estimates, prioritization, and potential funding sources for Port of Toledo projects as included in the *Boatyard Buildout Plan.* The Port has a number of different funding sources beyond transportation funding sources. The Port receives and is eligible for a variety of economic development, marine, and Army Corps of Engineers funding sources that are not available for street or bicycle and pedestrian projects. The Port also has a budget of its own that it can use to fund projects.

TABLE 3-4
Port and Water System Upgrade Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source	Lead Agency/ Project Partners
Phase 1 projects – New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift	$3,493,000	Short-term	Port, ConnectOregon, MNIF, PRLF	Port
Phase 2 projects – upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas	$950,000	Medium-term	Port, ConnectOregon, MNIF, PRLF	Port
Phase 3 projects – construct vessel work building, new boatyard office and restrooms	$2,050,000	Long-term	Port, ConnectOregon, PRLF	Port

Notes:
Port – General Port of Toledo Revenues
MNIF – Marine Navigation Improvement Fund
PRLF – Port Revolving Loan Fund

3.4.3 Water Projects

There are no projects for water transportation.

3.5 Rail Network

3.5.1 Freight Rail Conditions

Portland and Western Railroad operates the short-line track in Toledo, serving the Georgia-Pacific site which is currently the sole customer along the line. Within the City, there are four public crossings of the railroad tracks, all of which are rough with degraded pavement and potholes between the rails and the street surface. These rough crossings make it difficult for pedestrians and bicyclists, cause damage to vehicles including freight trucks, and on occasion cause trains to derail due to the condition of the rails. The derailments could potentially impact plant operations by delaying material shipments into and out of the facility. There is also an unprotected crossing at Butler Bridge Road where a spur track enters the Georgia-Pacific site. Train engineers are required to use signal flares when using this crossing. The crossing has an advance warning sign, pavement markings, and a roadside "Yield" and railroad crossing signs. However, unlike the other rail crossings in Toledo there are no flashing lights, bells, and gates.

There is one roundtrip train per day, and an average of six to 12 switching movements along the track near Butler Bridge Road downtown. Most railroad crossings are gated; however, it is possible to cross with a train on the tracks from SE 2nd Street onto Butler Bridge Road. Multiple stakeholders indicated that improving rough railroad crossings should be a high priority. Motorists, bicyclists, and pedestrians have submitted multiple complaints that the crossings are not well maintained and pose a safety hazard. Two crashes were reported by stakeholders at crossings; a bicycle crash and a vehicle/train crash.

Since the rails are owned by the railroad, the City is not able to address deficiencies directly. However, the City recognizes that freight rail is important to sustaining the local economy and is interested in preserving or increasing the amount of traffic using the rail line to access the I-5 corridor while improving crossing conditions. Chapter 2 includes goals and policies to address the rail network within Toledo.

3.5.2 Rail Projects

There are no projects for the rail network.

3.6 Air Plan

3.6.1 Airport Conditions

The airport in Toledo accommodates about 22 takeoffs and landings a week for private aircraft (ultralight and single-engine planes) and there are no commercial passenger services. It is also used when foggy weather conditions preclude aircraft landings at Newport Municipal Airport. During emergencies, Coast Guard helicopters and Life Flight air ambulances use the airport to transport people and supplies. There are no plans to expand the airport and no plans to change the amount of aircraft using the facility.

The state has expressed the desire to sell the airport to the Port of Toledo numerous times in the last 30 years, most recently in 2005.[3] However, the airport remains in State ownership as the Port is not interested in purchasing the airport. The State has no changes planned for the airport within the planning horizon of the TSP, with the possible exception of the sale and potential closure if the State is successful. If the airport closes, the City will need to determine an alternate site for emergency response aircraft to continue serving Toledo.

3.6.2 Air Projects

There are no projects for the airport.

3 Hitchman, James. 2010. The Port of Toledo, Oregon, 1910-2010. Toledo, OR. p. 57; available online at http://www.portoftoledo.org/Hitchman%20History%20for%20Website%20PDF.pdf

3.7 Pipeline Network

Water and sewer lines in Toledo are co-located with City-owned streets. The Georgia-Pacific site has a large pipeline connecting two activity areas, as well as a pipeline used to discharge effluent in the Pacific Ocean west of Newport. Northwest Natural operates a high-pressure gas transmission pipeline northeast of the City. There are no plans to expand any pipelines in the City.

There are no plans and no need to expand the gas pipeline into Toledo within the 20 year planning horizon of the TSP.

3.7.1 Pipeline Projects

There are no proposed projects for the pipeline network.

4. Implementation Measures

TSP project implementation will depend on funding and community priorities. There are a variety of funding sources available at the City, County, and State level and each project table above includes applicable funding sources. Additionally, the relative importance of TSP projects are identified in the project tables, based on community goals, the magnitude of the deficiency or issue that the project addresses, and the ability to secure funding, conduct engineering, and build a project. Appendix B: Transportation Funding provides a detailed description of transportation funding and improvement costs for all of the TSP's projects.

4.1 Street Standards

The following sections describe the various streets within Toledo and provide standards for traffic operations, access management and spacing standards, and street cross sections.

4.1.1 Functional Classification Plan

The City's functional classification plan defines the intended operations and character of streets within the overall transportation system, including standards for street and right-of-way width, access spacing, and pedestrian and bicycle facilities. Streets within the City are classified appropriately for consistency and reflect the current and anticipated future function, use, and traffic volumes. The City of Toledo's functional classification system applies to streets owned by the City, the County, and the State; it also includes principal arterials, arterials, collectors, commercial, and local streets. Figure 4-1 presents the functional classification plan for the City of Toledo. Table 4-1 describes the functional classifications and the purpose they are intended to serve.

TABLE 4-1
Functional Classification Definitions

Functional Classification	Definition
Principal Arterial	High traffic volume and limited access street that accommodates long-distance trips between and through urban areas. Principal arterials have little to no local residential and commercial access and prioritize through movement, connecting mainly to arterials and collectors. US 20 is the only principal arterial in Toledo and is owned and maintained by the Oregon Department of Transportation (ODOT).
Arterial	High traffic volume street that accommodates longer-distance trips and prioritizes mobility over local access. In Toledo, no streets are designated as an arterial street.
Collector	Moderate traffic volume street that accommodates shorter local trips and balances the need for local property access and through traffic. Collector streets connect residential traffic on local streets with other collector and arterial streets. Within the City of Toledo, collector streets include Business Loop 20, Arcadia Drive, Skyline Road, Sturdevant Road, East Slope Road, Butler Bridge Road, and Yaquina Bay Road.
Commercial	Low speed, low traffic volume street that is within or adjacent to land zoned commercial or industrial with a high percentage of freight truck traffic. Commercial streets provide frontage and direct access for commercial and industrial uses.
Main Street	Low speed, moderate traffic volume local street that serves the downtown retail district and has an attractive, pedestrian-oriented streetscape with landscaping, wider sidewalks, and on-street parking. Main Street accommodates local and freight traffic associated with the downtown business district. This designation is specific to Main Street in downtown Toledo.
Local	Low speed, low traffic volume street that connects local traffic to collector and arterial streets and prioritizes local access to residences and businesses over through traffic.

Business Loop 20 is an important part of the Toledo street network, as it is one of the only connections to US 20 besides Arcadia Drive, and provides access into the downtown core, carrying the most traffic in the City. Business Loop 20 is currently classified as an arterial street. However, though between A Street and NE 3rd Street, Business Loop 20 has lower speeds, a number of driveways and local street access. This segment of Business Loop 20 prioritizes local access over higher-speed through traffic. For this reason, the TSP reclassifies Business Loop 20 as a collector street. This designation acknowledges that the priority for Business Loop 20 in Toledo is business and local street access and rather than through mobility for vehicles.

To ensure consistency and a logical functional classification system, the TSP reclassifies five streets within the Toledo Urban Growth Boundary (UGB). Reclassification does not require upgrades to meet the cross section standards of the new classification designations until new development occurs (described in the Street Design Standards section below). Reclassifications are based on the current and expected use of the street and to create consistency among the City and State Functional Classification. Table 4-2 summarizes the functional classification changes.

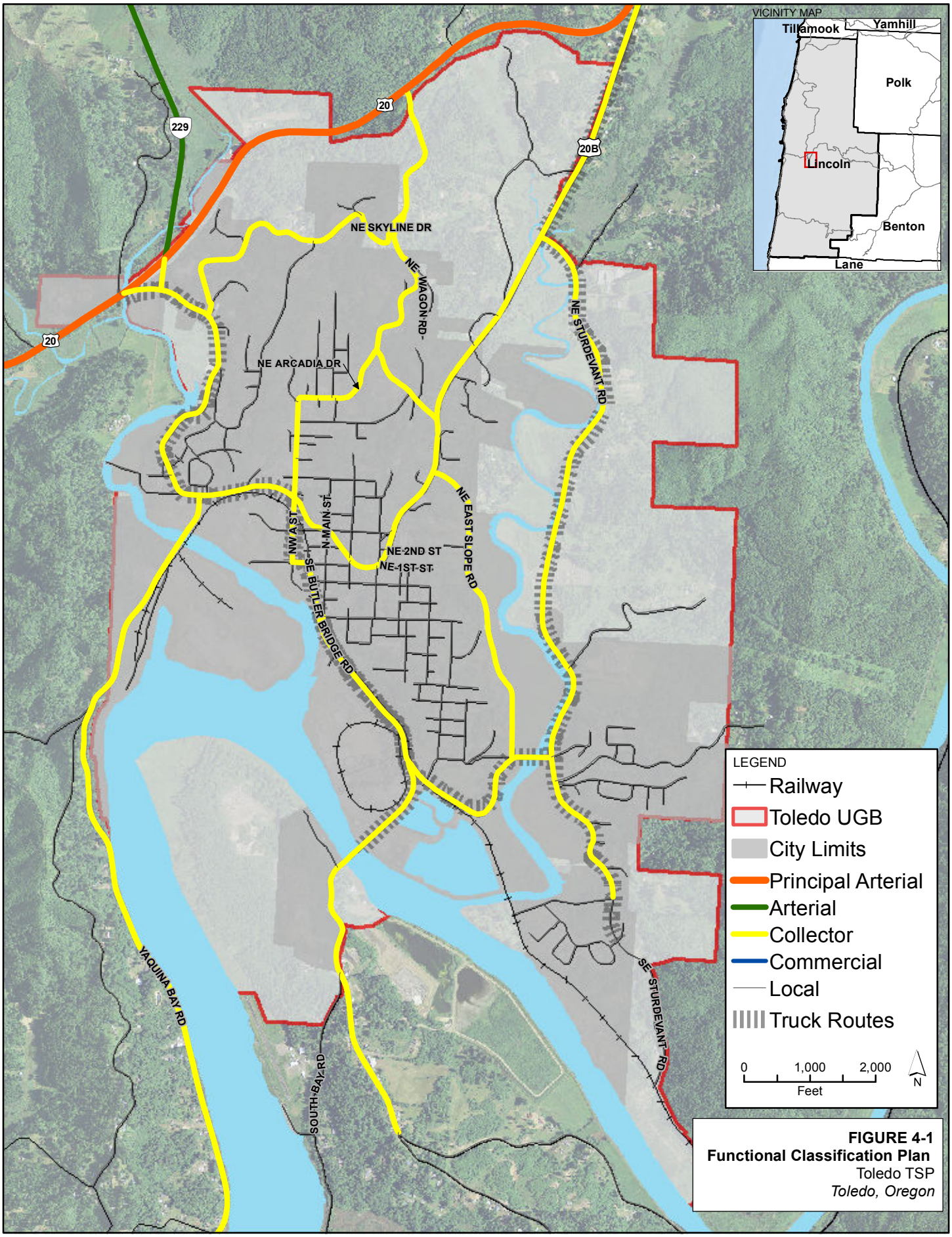


FIGURE 4-1
Functional Classification Plan
Toledo TSP
Toledo, Oregon

TABLE 4-2
Functional Classification Modifications

Street	Current Classification	New Classification	Justification
Business Loop 20	Arterial	Collector	The priority for Business Loop 20 is access to local businesses and streets, not through traffic
A Street (south of Business Loop 20)/1st Street/Butler Bridge Road	Local	Collector	This is the main truck route within the City, and provides access to GP Mill sites
Arcadia Drive (north of Skyline Drive to UGB)	Local	Collector	Makes Arcadia Drive a collector from US 20 to the City limits
Lincoln Way	Local	Collector	Provides a connection to Skyline Drive, an existing collector to Business Loop 20
Main Street	Collector	Local	Does not collect through traffic – provides local access to the City's commercial core
East Slope Road (north of SE 10th Street to Business Loop 20)	Local	Collector	Is one of the few connections between Sturdevant Road and Business Loop 20

Notes:
Current classification is based on the City's existing classification

4.1.2 Street Design Standards

Table 4-3 lists the standards for arterial, collector, commercial, Main Street, and local streets. These standards are based on the City of Toledo *Division 3: Street and Transportation System Design Standards Manual* (2009).

TABLE 4-3
Street Design Standards

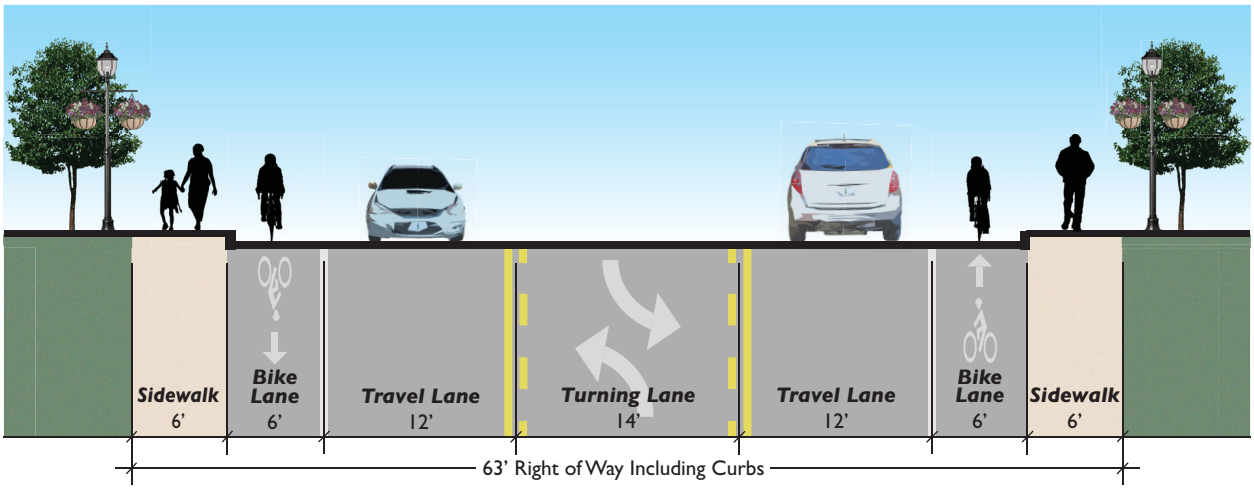
Type of Street	Street Width with Curbs[1]	Travel Lane	Center Median or Center Turn Lane	On-Street Parking	Bike Lane[2]	Sidewalk
Arterial: 3 lane	63’	Two 12’ travel lanes	14’	None	6’ on both sides	6’ on both sides
Arterial: 2 lane	49’	Two 12’ travel lanes	None	None	6’ on both sides	6’ on both sides
Collector	45’	Two 12’ travel lanes	None	None	5’ on both sides	5’ on both sides
Commercial	77’	Two 12’ travel lanes	14’	8’ on both sides	5’ on both sides	6’ on both sides
Local: Preferred	55’	Two 14’ travel lanes	None	8’ on both sides	Cyclists share the travel lane	5’ on both sides
Local: Minimum	39’	Two 14’ travel lanes	None	None	Cyclists share the travel lane	5’ on both sides
Main Street	61’	Two 12’ travel lanes	None	8’ on both sides	None	10’ on both sides
Multi-Use Path	-	-	-	-	12’ total width (10’ trail with 1’ shoulders)	
Boardwalk	-	-	-	-	12’ total width with side railings; 10’ if no rails are used	

Notes:
[1]Includes six inch curbs on either side

[2]Bike lanes could be substituted for a 4’ shared use shoulder where topography or other right-of-way constraints exist, at the discretion of the Planning Commission.

Figures 4-2 to 4-4 show the cross sections for each of the street classifications.

3-LANE **ARTERIAL** ROAD



2-LANE **ARTERIAL** ROAD

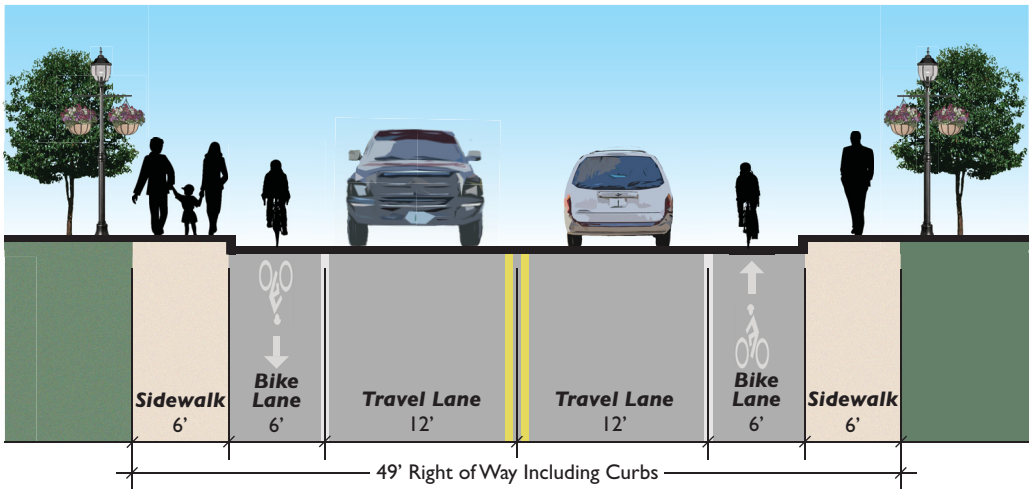
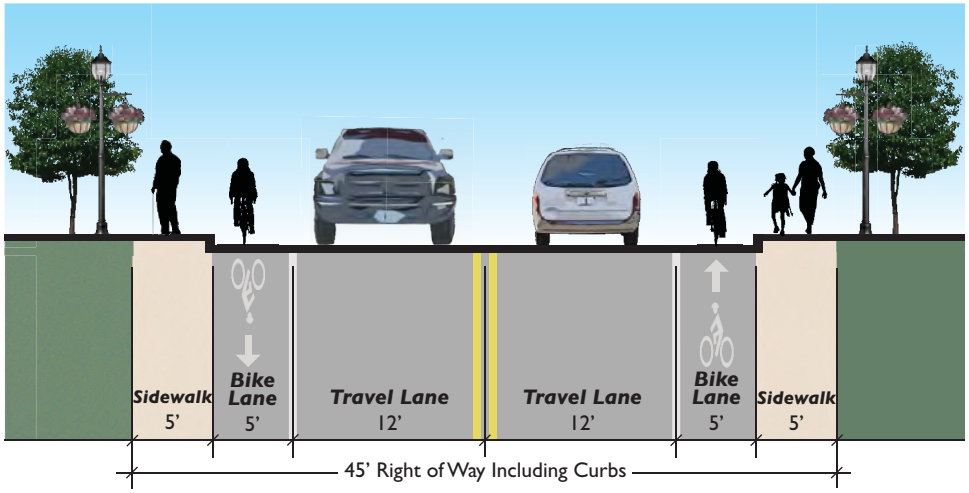


FIGURE 4-2
Arterial Road Standards
City of Toledo TSP

COLLECTOR ROAD



COMMERCIAL ROAD

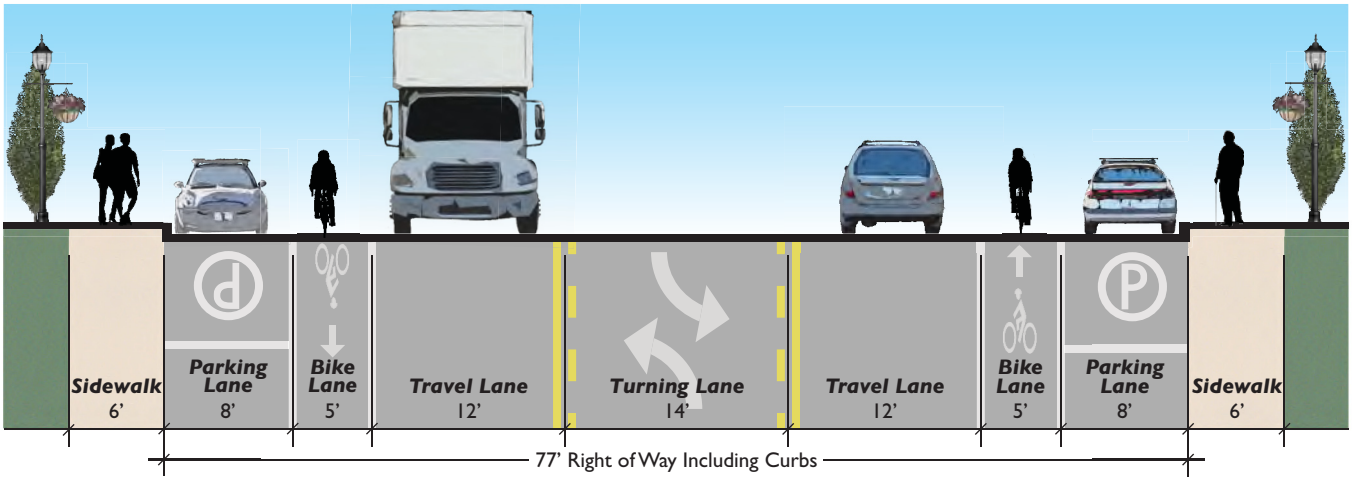
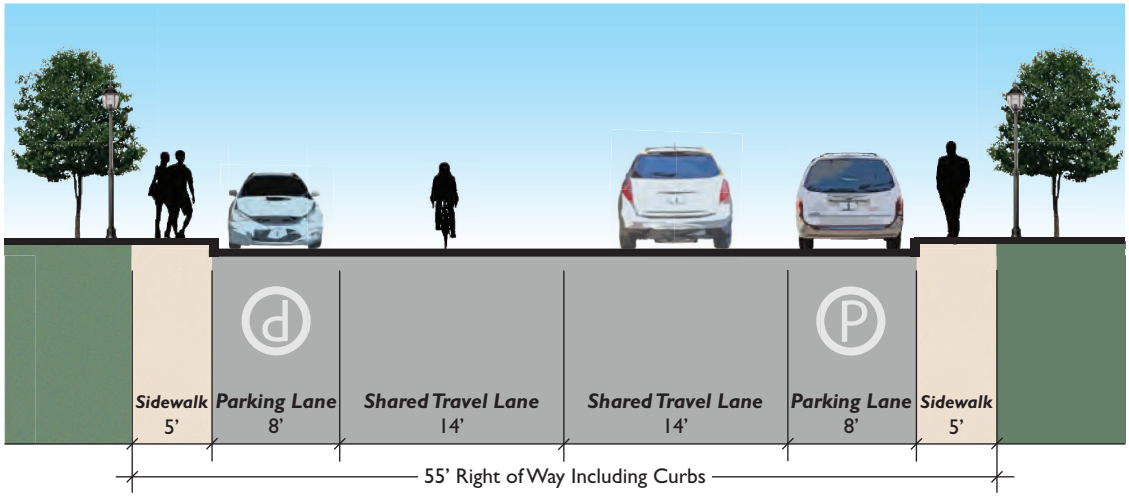
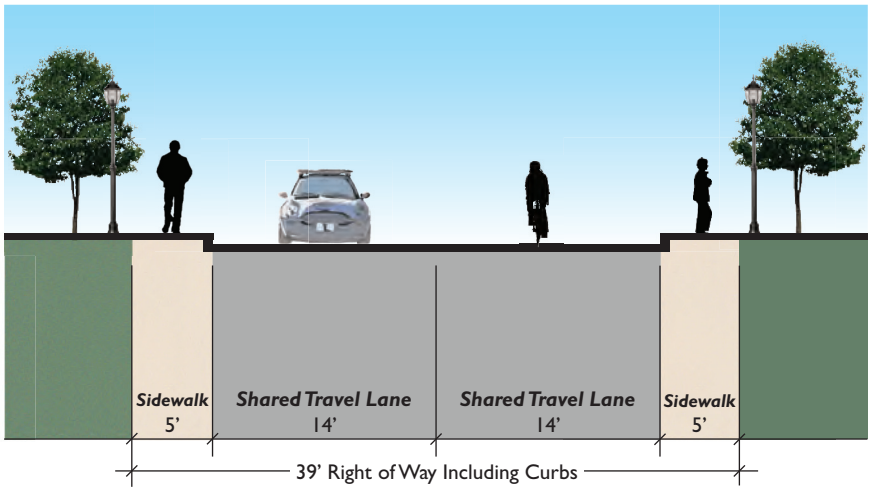


FIGURE 4-3
Collector and Commercial Road Standards
City of Toledo TSP

PREFERRED **LOCAL** ROAD



MINIMUM **LOCAL** ROAD



DOWNTOWN **MAIN STREET**

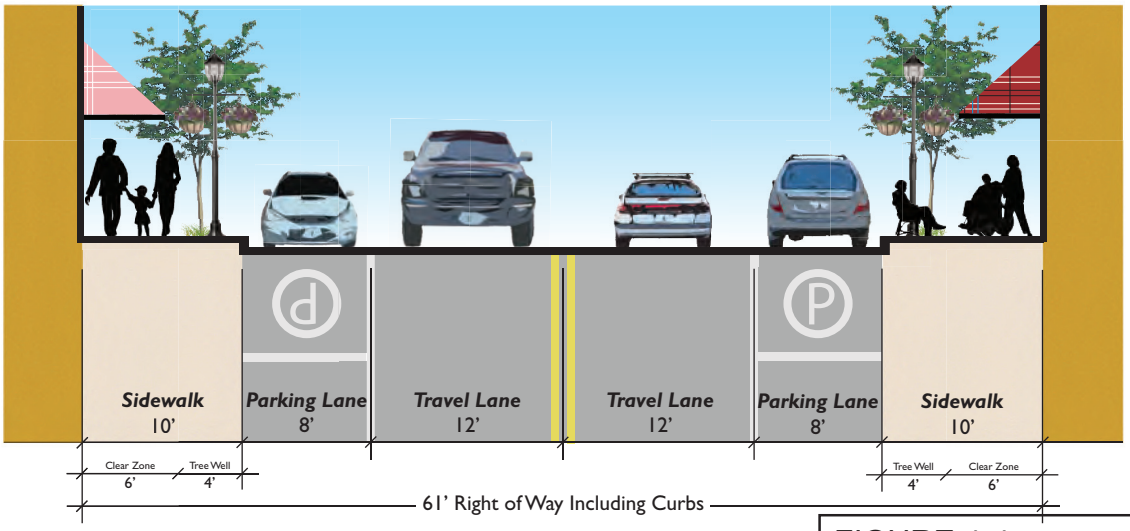


FIGURE 4-4
Local Road and Downtown Main Street Standards
City of Toledo TSP

4.1.3 Access Management Standards

Access management is important to maintain traffic flow and ensure safety on the City's street network, including Business Loop 20, Sturdevant Road, and other higher-traffic routes. Limiting the number of points where traffic can enter and exit reduces potential safety concerns and improves traffic flow. These standards are for both public streets and private driveway accesses onto public streets. Toledo must coordinate with Lincoln County and ODOT to manage access on roads the City does not own, including parts of Sturdevant Road, Bay Boulevard, and US 20. Existing streets and driveways are not subject to these standards, only new streets and driveways or streets and driveways significantly modified by a new development or redevelopment would be subject to these standards.

Table 4-4 shows the standards for public intersections are based on the functional classification of the street.

TABLE 4-4
Public Street Intersection Spacing Standards

Functional Classification	Public Intersection Spacing
Arterial	100 feet
Collector†	100 feet
Local Street*	50 feet

† Collector street standards will be applied to Commercial Streets
* Local Street standards will be applied to Main Street

Table 4-5 shows the spacing standards for private driveways that intersect with public streets.

TABLE 4-5
Private Access Driveway Spacing Standards

Functional Classification	Driveway Spacing
Arterial	40 feet
Collector†	20 feet
Local Street*	10 feet

† Collector street standards will be applied to Commercial Streets
* Local Street standards will be applied to Main Street

4.1.4 Traffic Operations Standards

For intersections under City jurisdiction, there are currently no adopted mobility standards. Typically cities use a volume to capacity (v/c) standard and a level-of-service (LOS) standard. The LOS helps quantify the degree of comfort for drivers, through elements such as travel time, number of stops, amount of time spent stopped (delay), and impediments caused by other vehicles. Examining both measures is useful since the v/c will indicate if there is enough room at the intersection for all the vehicles while the LOS will denote whether those cars are moving through the intersection in a reasonable amount of time. Table 4-6 lists the breakdown of the LOS in reference to delay for the City.

TABLE 4-6
Toledo TSP: Level-of-Service Criteria

Level-of-Service	Average Vehicle Delay (seconds/vehicle)		General Description
	Signalized Intersections	Stop-Controlled Intersections	
A	0-10	0-10	Few or no traffic delays – individual users are virtually unaffected by the presence of other vehicles
B	10-20	10-15	Short traffic delays – traffic flow is stable, but the presence of other users begins to be noticeable
C	20-35	16-25	Average traffic delays – traffic flow is stable, but other traffic begins to significantly affect individual users
D	35-55	26-35	Long traffic delays – traffic flow is dense but stable. Other users restrict individual driver maneuverability
E	55-80	36-50	Very long traffic delays – operations are at or near capacity levels and unstable. Freedom to maneuver is difficult
F	>80	>50	Extreme traffic delays – operates are at breakdown where demand exceeds capacity. Delays and queuing may cause severe congestion.

Notes:
Source: 2010 Highway Capacity Manual

For two-way stop controlled intersections in Toledo, the standard is an LOS E. For volume to capacity measures, in all cases, the standard is a v/c ratio of 1.0 or lower.

4.2 Funding Sources

A variety of established and potential federal, state, and local funding sources are available to fund future transportation projects in the Toledo TSP, depending on the eligibility requirements.

4.2.1 Established Federal Funding Sources

Federal funding currently accounts for approximately 20 percent of total funding for transportation projects in Oregon. Toledo is not located within a Metropolitan Planning Organization (MPO) and federal funding is instead made available through state or county programs via the Cascades West Area Commission on Transportation (CWACT). CWACT generally programs federal funding for regional and local projects that affect the state transportation system, though some funds are made available directly for local projects.

Most federal funding is available through the federal surface transportation program, supported by tax revenue to the Highway Trust Fund (HTF).

Federal Highway Trust Fund

Revenues to the HTF are comprised of motor vehicle fuel taxes, sales taxes on heavy trucks and trailers, tire taxes, annual heavy truck use fees, and revenue from the general fund. The fund is split into two accounts – the highway account and transit account. Funds are appropriated to individual states on an annual basis. The 2005 legislation for the federal surface transportation program (Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users, referred to as SAFETEA-LU) was replaced in July 2012 with Moving Ahead for Progress in the 21st Century (MAP-21). This new 2-year program keeps total federal funding at the SAFETEA-LU rate, consolidates the 90 current programs under SAFETEA-LU into 30, eliminates transportation earmarks, and increases funding for the Transportation Infrastructure Finance and Innovation Program (TIFIA). The TIFIA program provides loans to finance transportation projects of regional or national significance, and seeks to leverage federal transportation dollars with local funds and private investment. Toledo may be eligible to receive funding under the expanded TIFIA program.

The HTF is used to finance the Surface Transportation Program (STP), among other formula programs, which is the primary program that funds local government and non-highway projects. Projects that receive federal funding must be included in the four-year Statewide Transportation Improvement Program (STIP) and are usually required to be matched with state or local funding. The CWACT is responsible for allocating funding for counties and cities under its jurisdiction and will play a central role in prioritizing projects for funding through the Enhance-It STIP.

Federal Transit Administration grants

The Federal Transit Administration (FTA) manages a number of grants available to transit agencies nationwide. The City of Toledo could work with Lincoln County Transit to fund transit projects serving the City.

- **Transit Expansion and Livable Communities Grants.** Approximately $2.4 billion in funds was appropriated for this program in the current budget year. The goal of this initiative from the Federal Transit Administration is to advocate for and support projects and programs that improve the link between public transit and communities. Several formula and competitive grant programs are available through this initiative. Policy goals include better integrating transportation and land use planning, fostering multimodal systems, providing transportation options and improving access, reducing emissions, and increasing public participation in transportation decision-making.

Toledo and Lincoln County Transit may be eligible for grant funding under this program.

- **Formula Grants for Other than Urbanized Areas (5311).** These grants are given to the states for distribution to rural (fewer than 50,000 people) communities. This program is intended to enhance access to services, assist in development or maintenance of public transportation systems, and assist in development of intercity bus service.

Lincoln County Transit currently receives operating funds of approximately $350,000 per year from this source.

- **Transportation for Elderly Persons and Persons with Disabilities (5310).** This formula grant program is managed by the state, with funds provided for capital projects that enhance the accessibility of older adults and those with disabilities. This funding source could be used to support constructing a transit shelter at the Food Fair Stop.

Lincoln County Transit will receive $660,000 in capital grant through this FTA program this year.

- **Section 319 Non-Point Source Implementation Grants.** Transportation projects that integrate stormwater treatment may be eligible to receive federal funding through Section 319 grants. This program, administered by the Oregon Department of Environmental Quality (DEQ), provides federal funds to address non-point pollution, including stormwater improvement projects. Funding is very competitive, with less than $500,000 available statewide in the most recent grant cycle. Projects that could be eligible for funding include applications of pervious pavements, stormwater detention and retention, and other low impact stormwater development tactics. Funds can be used for all or a portion of a project, but require a minimum 40 percent match.

The Yaquina River is on the Clean Water Act 303(d) list for a number of pollutants and projects within the river basin may be attractive for funding.

4.2.2 Established State Funding Sources

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund is the most significant source of funding for the programs described below. To be eligible for funding, projects must be programmed through the STIP.

State Highway Fund

State Highway Fund Revenues are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax and federal monies. Fund revenues may only be used for construction and maintenance of state and local highways, bridges, and roadside rest areas. State law (ORS 366.514) specifies that a reasonable amount of highway funds must be spent on walkways and bikeways and that in any given fiscal year, a minimum of 1 percent of State Highway Funds must be spent on these projects by funding recipients. However, cities and counties receiving funds may allocate them to a reserve fund, which they must expend within a period not to exceed 10 years. All funds must be expended on projects within street or highway rights-of-way.

Statewide Transportation Improvement Program (STIP)

The STIP is the 4-year capital improvement program for the State of Oregon. It provides a schedule and identifies funding for projects throughout the state. Projects included in the STIP are generally "regionally significant" and are prioritized by CWACT. Continuing involvement with the CWACT will ensure the City's priorities, especially the improvements at the Western Junction, are considered in the next few funding cycles.

All regionally significant state and local projects, as well as all federally-funded projects and programs, must be included in the STIP. About 80 percent of STIP projects use federal funds, most of which will originate from MAP-21 programs. This includes the STP, TAP, and National Highway Performance Program funding for preservation and improvement of the National Highway System. In addition, Regional Flexible Funds competitive grants awarded every two years towards bicycle, pedestrian, transit, and Transportation Demand Management (TDM) projects are now included in the STIP.

Beginning with the 2015-18 STIP, the process will be reorganized into two broad categories: "Fix-it" and "Enhance" that encompass the previous funding categories detailed in the 2012-2015 STIP. "Fix-it" projects are those that fix or preserve the current transportation system; "Enhance" projects are those that enhance, expand, or improve the transportation system. The main purpose of this reorganization is to allow maximum

flexibility to fund projects that reflect community and state values, rather than those that fit best into prescriptive programs.

Applicable "Fix-it" activities will include:

- Bridges (state owned)
- High Risk Rural Streets
- Illumination, signs and signals
- Safety

Applicable "Enhance" activities will include:

- Bicycle and/or Pedestrian facilities on or off the highway right-of-way
- Most projects previously eligible for Transportation Enhancement funds
- Bike/Ped, Transit, TDM projects eligible for Flexible Funds (using federal STP and CMAQ funds)
- Safe Routes to School (infrastructure projects)
- Transportation Alternatives (new with MAP-21)

Under this new STIP organization, there will be one application for all projects eligible under the "Enhance" program. Communities will apply for the "Enhance" projects that best serve their community and ODOT will determine the appropriate funding mechanism. The OTC will select "Enhance" projects based on recommendations developed by local governments, public agencies, and citizen representatives through the ACTs. "Fix-it" projects will be selected with input from infrastructure management systems, supported by consultations with the ACTs. This new organization is primarily intended to increase funding flexibility and does not represent a fundamental change in the type of projects that will be funded through the STIP. Seventy-six percent of the STIP funding will go to "Fix-it" projects, while 24 percent will go to "Enhance" projects.

Federal active transportation funding is now incorporated into the Transportation Alternatives Program (TAP) in MAP-21, replacing the separate Recreational Trails, Safe Routes to Schools, and Transportation Enhancement (TE) Programs from the previous surface transportation program. TAP funds are eligible for a wide variety of transportation projects that improve aesthetics, improve safety, and add value to the transportation system, and can be used for Recreational Trails, Safe Routes to School, and those projects previously eligible for TE including bicycle and pedestrian projects, landscaping, historic preservation, and other projects. However, the amount of funding allocated to TAP is significantly reduced from the three previous programs added together.

Non-STIP State Funding Sources

Other sources of funding are available that are not part of the STIP process. This section describes those programs that may be applicable to projects in the Toledo TSP.

- **Public Transit Programs**: ODOT manages a number of state and federal transit programs. While the City does not manage transit service, Toledo could work with Lincoln County Transit to fund transit projects important to the City.
- **ODOT Bicycle and Pedestrian Program Grants:** Most funds in this program are distributed through competitive grants to local governments. A minimum of one percent of annual state highway revenues are devoted to this program, with about $5 million in funding available every two years. All projects must be within public rights-of-way; recreational trails outside of the right-of-way are not eligible. Grant cycles occur every two years and local match is generally expected. Pedestrian and bicycle projects in Toledo within the public right-of-way are eligible to apply for grants from this program.
- **Immediate Opportunity Fund**: This fund is discretionary, and provides funding for transportation projects essential for supporting site-specific economic development projects. These funds are distributed on a case-by-case basis in cooperation with the Oregon Economic and Community Development Department. These funds can only be used when other sources of financial support are insufficient or unavailable. These funds are reserved for projects where a document transportation problem exists, or where private firm location

decisions hinge on the immediate commitment of road construction. A minimum 50 percent match is required from project applications.

- ***Connect*Oregon**: *Connect*Oregon funds are lottery-backed bonds distributed to air, marine, rail, transit, and other multimodal projects statewide. No less than 10 percent of *Connect*Oregon IV funds must be distributed to each of the five regions of the state, provided that there are qualified projects in the region. The objective is to improve the connections between the highway system and other modes of transportation.
- **Oregon Infrastructure Authority programs**: Grant and loan programs such as the Marine Navigation Improvement Fund (MNIF) and Port Revolving Loan Fund (PRLF) are managed by the Infrastructure Finance Authority (IFA). These programs help ports develop infrastructure and public facilities, as well as address their utility and economic needs. The MNIF can be used on federally authorized projects designed and operated by the U.S. Army Corps of Engineers to improve the Port of Toledo. The PRLF is a loan program to assist Oregon ports in the planning and construction of facilities and infrastructure or to assist port-related private business development projects.
- **Special City Allotment Grant:** Special City Allotment Grants are made up of $1 million in state gas taxes distributed annually among cities with population of less than 5,000. ODOT sets the distribution and dollar amount by agreement with the League of Oregon Cities. Half of the funds come from the cities' share of gas tax revenues and half comes from ODOT's share of the State Highway Fund. Cities can receive half of the maximum $25,000 grant amount at the beginning of the project, with the final payment due upon completing of the project.

Oregon Parks and Recreation Local Government Grants

The Oregon Parks and Recreation Department (OPRD) administers this program using Oregon Lottery revenues. These grants can fund acquisition, development and major rehabilitation of public outdoor parks and recreation facilities. OPRD has distributed $4 million annually under this program through a competitive grant process. A match of at least 20 percent is required.

Oregon Transportation Infrastructure Bank (OTIB)

The OTIB is a statewide revolving loan fund available to local governments for many transportation infrastructure improvements, including highway, transit, and non-motorized projects. Most funds made available through this program are federal; streets must be functionally classified as a major collector or higher to be eligible for loan funding.

4.2.3 Established Local Funding Sources

This section describes existing local funding sources for the City of Toledo. Major local funding sources include general fund revenues, road maintenance fees, and system development charges, plus the City's share of State Highway Fund revenue.

Road Maintenance Fees

This fee is assessed to all residential and non-residential properties in the City of Toledo to fund upkeep of the City's street system. Approximately $110,000 in fee revenue was forecast for the fiscal year of 2011. These revenues are made available exclusively for street maintenance (TCC 13.40.040). These fees represent a significant source of funding for maintenance of existing streets, but are unavailable for new capital improvement projects.

System Development Charges

System development charges (SDCs) are one-time fees on new development that compensate for the increased traffic associated with new development. The City authorized the collection of system development charges (SDCs) for all infrastructure categories in 2010. SDCs cannot be expended on transportation operations or maintenance projects, and may be used exclusively for capital improvement projects. These charges are payable

to the City when a building or other development permit is issued. In 2011, no transportation SDCs were collected and the 2012 budget forecasts approximately $2,000 in SDC revenue. The outlook for SDC revenue is very uncertain, given limited development during the current economic downturn.

Public Utility District Franchise Revenue

Forty percent of this revenue source is transferred to the streets fund; monies are available for transportation capital improvements, maintenance, and operations. Approximately $350,000 in revenue was forecast for the 2012 budget year from this source, representing a significant share of total local transportation resources.

4.2.4 Potential Other Funding Sources for Future Projects

The following funding sources and strategies may be available to the City in addition to the established programs listed above.

Department of Energy: Energy Efficiency and Conservation Block Grants (EECBG)

This program was initially funded through the American Recovery and Reinvestment Act of 2009. The current funding authorization expired in April 2012. Future funding for this program is currently uncertain. The program provided formula grants to states and competitive grants for projects that reduce fossil fuel emissions, reduce total energy use of eligible grantees, and improve energy efficiency of transportation and other sectors.

Toledo may be eligible for competitive grants if this program is funded in future federal budgets.

Increased State Highway Fund revenues

Gas tax revenue to the State Highway Fund has not kept pace with inflation or demands of the state's transportation system. ODOT is exploring new revenue models to meet state transportation needs, which may result in increased funds for state transportation programs in coming years. Oregon is actively exploring a vehicle miles travelled (VMT) tax to replace the current gas tax, with full implementation of any VMT program expected to take up to 20 years.

Local Improvement Districts (LID)

LIDs are created by property owners within a district of a city to raise revenues for constructing improvements within the district boundaries. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because of the economic or personal advantages of the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods. The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues can only be used on capital projects. LID revenues can be combined with other revenue sources to fully fund projects.

Streets District

A Streets District is essentially a type of limited LID. Oregon state law (ORS 371) allows for the formation of special streets taxing districts for purposes of constructing and maintaining streets within the taxing district boundaries. A streets district would be a separate entity from the City of Toledo, with its own property tax levy rate and an elected board of commissioners. The creation of a streets district must be voted on by those within the potential district boundaries.

Tax Increment Financing (TIF)

The City of Toledo must first designate an urban renewal area within the City to implement TIF. The county assessor "freezes" the assessed value of properties within the urban renewal area and the property taxes collected above those that were collected when the property values were frozen are used to pay for improvements within the urban renewal area. TIF assumes that property values within the urban renewal area will increase over time. TIF is primarily an economic development tool, but may be useful for targeting areas in the City with serious improvement needs.

Revenue and General Obligation Bonds

Bonding allows municipal and county government to finance construction projects by borrowing money and paying it back over time, with interest. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost of the project by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements and must be approved by a vote of the public. These bonds add the cost of the improvement to property taxes over a period of time.

Toledo could consider issuing a General Obligation Bond to pay for significant transportation improvement projects identified within the City.

Parking Fees

The City does not currently charge for parking. Income generated by charging parking fees could be used to implement a variety of transportation projects. The collection system would require purchase of parking meter infrastructure, careful study of where to install meters, and analysis of the appropriate fee amount to charge drivers.

4.2.5 Prioritization

Prioritization of projects within this TSP is separated into three categories: short-term, medium-term, and long-term. Short-term projects are expected to be built within 0-5 years, while medium-term projects are 5-10 years, and long-term projects are expected to be built in the 10-20 year time frame. Prioritization is determined based on a combination of the most important projects to implement first, the ease of implementation, and the potential cost – some projects will take a number of years to identify and secure funding. Some projects will also need regional coordination and support, which may take time to secure an agreement. Prioritization is an estimate: long-term projects may be implemented sooner than 10-20 years due to funding becoming available, a high degree of community support, or other factors. The suggested priority for projects in this TSP is a general guide and not a required timeframe (see tables in Executive Summary).

4.3 Recommended Code Language

In preparing implementation measures for the TSP, the project team evaluated the City's development code for compliance with the TPR. These state regulations are intended to increase the amount of coordination between public agencies, protect transportation investments, support efficient urban development, and promote the use of modes other than single-occupancy vehicles. The project team found that the TSP and development code were largely in compliance with the TPR, but that some updates to objective and code would be needed for full compliance. The evaluation findings are included in the TSP as Appendix E: Street Standards.

The following represent the types of amendments proposed to implement the TSP and comply with state regulations:

- Identifying the development of transportation facilities as appropriate in the land use zones, in order to streamline the permitting process.
- Establishing bicycle parking standards.
- Providing safe and convenient pedestrian and bicycle access from within new developments.
- Transportation facility standards that specify requirements for lane width, sidewalks, bicycle facilities, and other right-of-way elements.

These proposed amendments will be carried through the hearings and adoption process after the TSP document is adopted. Language for proposed code changes can be found in Appendix F of this TSP.

4.3.1 Comprehensive Land Use Plan Amendments

The goals and objectives in Chapter 2 of this TSP will be included in Article 12 of the *Toledo Comprehensive Land Use Plan* upon adoption of this TSP by the City, and minor changes are included in Article 14 to incorporate references to the Transportation System Plan.

Appendix A
Plan Assessment

Toledo Transportation System Plan: Plan Assessment

Introduction

This memorandum identifies the relevant elements of plans prepared for local agencies in the project study area for assessing transportation conditions for the city of Toledo, Oregon. The previous unadopted 1995 TSP was also reviewed to determine which elements, if any, may be used in the Toledo TSP. The following plans were reviewed for applicable goals, policies, performance measures, conditions and alternative improvements analysis, and proposed improvement projects through other planning projects:

- Lincoln County Transportation System Plan
- City of Toledo Comprehensive Plan
- Port of Toledo Waterfront Connectivity Plan
- Port of Toledo Waterfront Development Strategic Plan

Although each document reviewed contains many policies, only the policies and information most pertinent to developing the Toledo Transportation System Plan (TSP) are included. The information in this memorandum will help identify which goals, policies, and performance measures will need to be updated or developed as part of the TSP project.

Lincoln County Transportation System Plan (TSP) (2007)

The TSP includes goals and objectives for the Transportation element of the County's Comprehensive Plan and documents the existing and future transportation system needs in Lincoln County. The document provides recommends improvements and financing strategies for roadway, transit, bicycle, pedestrian, air, rail, water, and pipeline facilities. The applicable elements from the TSP are included below.

Goals and Objectives

There are 11 goals for the TSP though only seven are applicable to the Toledo TSP. Each goal includes a number of supporting objectives to help achieve the given goal. Goal statements are broad statements that provide direction for the plan, and objectives include measurable outcomes to determine if the goal is being met. The goals and objectives applicable to the Toledo TSP are included below.

Goal 1 Mobility – Provide a safe, convenient, and economic multimodal transportation system that serves the travel needs of Lincoln county residents, businesses, visitors, and freight.

Objectives

4. Minimize travel distances and vehicle-miles traveled.
5. Move motor vehicles, pedestrians, bicyclists, transit, trucks, and trains to and through the county safely, efficiently, and economically.
7. Recognize and balance freight needs with needs for local circulation, safety, and access.
8 Promote rail freight transportation between Toledo and the Willamette Valley
9. Balance the need for truck access to industrial and waterfront areas with the desire for minimization of disruptions to urban areas.

Goal 3 Coordination – Maintain a transportation system plan that is consistent with the goals and objectives of Lincoln County, Lincoln County jurisdictions, and the state.

Objectives

3. Ensure adequate notification is given to affected agencies prior to meetings and public hearings on transportation planning and development issues.

6. Support the maintenance and expansion of port and harbor facilities to keep them a viable part of Lincoln County's economy.

7. Support expansion of local boating and shipping activities in the county's cities and ports.

Goal 4 Public Transportation – Provide cost-effective and safe public transportation options and access to alternative transportation modes to county residents.

Objectives

1. Ensure an appropriate level of County support for public transportation.

2. Support Lincoln County Transit's efforts to work with ODOT to secure federal funding for the County Transit System in a regular and ongoing basis.

4. Work to improve the signage and amenities at transit stops and stations.

5. Work with Lincoln County Transit to expand transit service as necessary during summer months of peak travel.

6. Support Lincoln County Transit's coordination efforts with local jurisdictions to meet the transit needs of Lincoln County communities.

Goal 5 Pedestrian and Bicycle Facilities – Provide for an interconnected system of pedestrian and bicycle facilities in Lincoln County to serve residents and recreational users.

Objectives

2. Ensure consistency between county and city plans for bicycle and pedestrian improvements.

3. Ensure consistency between county standards and city standards for bicycle and pedestrian facilities within UGBs.

6. Ensure adequate pedestrian access on all streets in commercial zones.

8. Improve public access to the waterfront and trails along the waterfront.

9. Establish signage to indicate trail access points and rules.

10. Promote multimodal connections where appropriate.

12. Support and encourage increased levels of bicycling and walking.

13. Develop safe and convenient pedestrian and bicycle systems that link all land uses, provide connections to transit facilities, and provide access to publicly owned land intended for general public use, such as the beach or park facilities.

14. Adopt and maintain development standards that support pedestrian and bicycle access to commercial and industrial development, including (but not limited to) direct pathway connections, bicycle parking facilities, and signage where appropriate.

Goal 6 Accessibility - Provide a transportation system that serves the needs of all members of the community

Objectives

1. Coordinate with Lincoln County Transit to encourage programs that serve the needs of the transportation disadvantaged.

2. Provide for the transportation disadvantaged by complying with state and federal regulations and cooperating with Lincoln County Transit and other agencies to provide transportation services for the disadvantaged.

3. Upgrade existing transportation facilities and work with public transportation providers to provide services that improve access for all users.

Goal 7 Environment – Provide a transportation system that balances transportation services with the need to protect the environment and significant natural features

Objectives

2. Encourage the use of alternative modes of transportation and encourage development that minimizes reliance on the automobile

5. Help promote the Lincoln County Public Transit system to increase its ridership.

Goal 11 Safety – Provide a transportation system that maintains adequate levels of safety for all users.

2. Work to improve the safety of rail, bicycle, and pedestrian routes and crossings.

3. Identify safe connections for vehicles, bicycles, and pedestrians.

Relevance to the Toledo TSP: There must be consistency with Lincoln County TSP goals and objectives.

Recommended Transportation Projects

The first project recommendation applicable to the Toledo TSP in the Lincoln County TSP is a refinement plan to improve the US 20 and Business Loop 20 (West) and OR 229 Intersection. The project recommends studying the realignment of the multiple roadways and determining whether a traffic signal or other traffic control measures are appropriate. The objective is to identify a preferred alternative that improves intersection operations and safety. Anticipated outcomes of the refinement plan are an intersection study and an identified preferred alternative.

The other recommendations include freight and intermodal improvement projects (Table 1).

TABLE 1
Lincoln County TSP Freight Projects in Toledo

Project Number	Location and Description	Project Timing	Project Duration	Estimated Cost
F1	Confederated Tribes of Siletz Indians/Toledo – Mill Site rail siding restoration. Restore two switches that were removed; upgrade siding rail to 113 lb rail, approximately 250'	Short-term	12 months	$289,800
F5	Port of Toledo – Intermodal/Industrial center. Would enhance and expand an intermodal transshipping facility to move goods by water, rail, and roadway. Facility will be located on a 20-acre site in Toledo on the Yaquina River. Extend the Portland and Western Railroad rail spur allowing barge/rail transfer.	Short-term	24 months	$5,482,000
F6	Portland and Western Railroad – Toledo Branch Upgrade. Would upgrade the line to allow the safe and maintainable operation of 286,000-pound (112-ton) freight cars at 25 to 40 mph speeds by upgrading existing rail to 132- to 136-pound rail.	Medium-term	60 months	$9,000,000

Source: Lincoln County TSP. 2007

Relevance to the Toledo TSP: Projects listed in the County and located in Toledo will be included, as appropriate, in the Toledo TSP.

2020 Vision for Toledo, Oregon – The 2000 Toledo Comprehensive Land Use Plan

The city of Toledo's Comprehensive Plan uses a framework of goals and policies to guide future growth and development decisions within the urban areas. Additionally, the 2020 Vision includes how the City would like to develop by 2020, including the development of:

- The Toledo Industrial Park, a mixed-use industrial and commercial center
- An active waterfront with shipbuilding and dockside repair facilities and marinas
- A strong retail segment in downtown and along Business Loop 20.

Other transportation-related visions for Toledo include:

- Landscaping and signage "gateway features" at both entrances into town (which are now in place).
- Businesses along the highway through town are expanded and improved; trees and planters border the sidewalk promenade.
- Main Street is a thriving residential neighborhood with apartments on the upper stories and adjacent streets.
- Modern, efficient, and high quality infrastructure and services.

Comprehensive Plan Applicable Goals and Objectives

Article 1: Citizen Involvement – Ensure opportunity for citizens to be involved in all phases of the planning process to provide useful guidance to and an understanding of the overall planning process.

Relevance to the Toledo TSP: The TSP process will include multiple opportunities for citizens to be involved throughout the development of the TSP. The Project Advisory Committee, stakeholder interviews, and public events will strive to involve a cross-section of citizens, citizen organizations, and public agencies in all phases of the planning process. The project web site will also be a source of information for citizens who would like to be more involved in the TSP process, consistent with this Comprehensive Plan goal.

Article 12: Transportation - Provide a safe and efficient, multi-model transportation system which provides links that enhance Toledo's neighborhoods, environment, economy, social, and scenic values. Minimize the adverse social, economic and environmental impact costs of constructing, maintaining, and using transportation facilities and services.

Objectives include:

- Create a multi-modal transportation system that provides services for motorized vehicles, bicycles, pedestrians, electronic data transmission, mass transit, and air, rail, and water transport (including shipping)
- Encourage options other than the personal automobile including:
    - Improve and support transit services
    - Improve and support ride-sharing opportunities
    - Support programs to reduce single-occupancy trips for commuters to Newport and other Lincoln and Benton County areas.
    - Encourage sidewalks, pedestrian paths, and bicycle paths/lanes.
- Provide a system of roadways that maintain vehicle capacity and public safety as the community grows.
- Provide linkages within the community with a circulation system that is safe and convenient to all areas within the community and that links the community to US 20, rail, air, and water shipping facilities.
- Build and maintain roadways and other transportation facilities in a manner that is the most cost effective for the life of the road so as to reduce public maintenance costs.
- Provide transportation facilities designed to maintain safe conditions over time and in adverse weather conditions.
- Develop a coordinated approach to the operation, development, and maintenance of transportation facilities. Link the construction and maintenance of roadways to the construction and maintenance of other public services including wastewater, water, storm drainage, public utilities, and public safety vehicle access and to the increased service level demands of new or expanded land uses within the City and Urban Growth Boundary.
- Support the role of Toledo as a regional center for air, water, rail, and roadway transport connections. Within Lincoln County, Toledo has the only sites which provide rail, air, water, and roadway connections for moving goods.
- Ensure continued, economically viable, and competitive access to electronic data transmission. Maintain the Toledo Public Utilities Commission to provide input to the City Council regarding franchises for the operation of public utilities within Toledo.
- Continue to coordinate transportation planning and services with Lincoln County, Oregon Department of Transportation, private industry, and others determining transportation policies, programs, and projects.
- Maintain efficient and safe truck routes and rail services to support the transportation of people, goods, and services between major employment centers and markets.
- Ensure that minimum, adopted national standards for public safety access are maintained for each property and that access lanes are provided as fire breaks and evacuation routes within the community.

- Require new development to extend/improve transportation facilities to complete transportation system linkages and to mitigate impacts of additional traffic from new development on the existing transportation system and neighborhoods.
- Adopt standards and procedures to ensure the provision of the desired transportation system as each property is developed or redeveloped for more intense uses. Employ standards by coordinating development permits with the extension or improvement of streets and other transportation facilities.
- Maintain the character of Toledo's neighborhoods by encouraging local streets that ensure safe and efficient traffic flows but which are designed to encourage low speeds and minimize traffic impacts within the residential neighborhoods.
- Adopt a Transportation System Plan which supports and implements these transportation goals and objectives (in the Comprehensive Plan), the Oregon Transportation Goal 12, and the requirements of the Oregon Transportation Rule.
- Develop and adopt a Transportation System Plan and clear and objective local standards for transportation facilities construction and maintenance. Incorporate the use of those plans and standards into application reviews and permits for all new developments and construction projects.
- Minimize disturbances of the natural environment or use of natural resources when locating, constructing, maintaining, and using transportation facilities and services. Encourage land use patterns which minimize environmental impacts from transporting people, goods, and services.

Relevance to the Toledo TSP: The transportation goals and objectives of the City Comprehensive Plan will be included in the TSP as part of an evaluation framework that will help the project team and community determine which project ideas meet these goals.

Port of Toledo Waterfront Development Strategic Plan (2007)

The Waterfront Development Strategic Plan is a plan for economic and recreational development of Port-owned and managed waterfront property along Depot Slough. The plan focuses on enhancing waterway use and job creation through light industrial and commercial development. There are a number of land use and non-transportation project ideas.

Applicable projects to consider in the TSP include:

- Depot Slough trail, art, and furnishings – create a paved, accessible trail along the entire frontage of depot Slough with linkages to other destinations.
- Pedestrian Connectivity to downtown – create a safe and direct pedestrian connection at Butler Bridge Road (Covered in the Port of Toledo Waterfront Connectivity Plan). The crossing should be ADA accessible and will need to match the height of the rails. Signage for both pedestrians and vehicles should also be added.

Relevance to the Toledo TSP: The trail and pedestrian connectivity should be included in the TSP, ensuring that the effort from this previous process is included.

Port of Toledo Waterfront Connectivity Plan (2009)

The Port of Toledo Waterfront Connectivity Plan identifies measures to improve connections between the Waterfront area with downtown Toledo and the greater transportation network. Goals of the plan are to increase access for bicycles and pedestrians, including special pedestrian populations (users with wheelchairs, power-assisted scooters, and child strollers) while preserving mobility for vehicle, freight, and rail traffic.

The plan objectives include:

- Improved pedestrian connections between the study area and surrounding neighborhoods and business districts.
- Improved pedestrian and bicycle circulation within the study area.
- Improved ADA compliance and accessibility.
- Continued mobility for passenger vehicles and freight traffic through the study area.
- Improved vehicular access and circulation for parking at the transient boat dock area.
- Enhanced aesthetics and visitor information.
- Increased awareness of the Waterfront as a location for business, cultural, and recreational activities.

Waterfront Activities

The Waterfront attracts visitors and community members throughout the year. The Yaquina Pacific Railroad Historical Society runs a museum in a former mail railroad car off Industrial Way near the Post Office. Memorial Field on A Street and 1st Street is an important regional sports venue adjacent to a playground. The Summer Festival, held on the fourth weekend in July is held at Memorial Field. The festival includes a carnival, food booths, beer garden, live music, local logging show, fireworks, and the Cub Scout Pine Wood Car Derby.

In addition to the organized activities, the river and slough offer scenic views and bird watching. The Port of Toledo supports public access and enjoyment of the waterways, including a viewing platform over Depot Slough, gravel path and benches, a small pavilion, and a boardwalk along the marina. The Port also acquired funding to build the gazebo and bathroom facilities. A transient boat dock along the Butler Bridge Road and the main Street/2nd Street intersection provides boat moorage opportunities.

The Port of Toledo also hosts several events in the Waterfront area. The largest is the Toledo Wooden Boat Show. Now in its eighth year, the show is held in August. It is a family event with new and vintage wooden boats on display, live music, food, boating demonstrations, and races. The event attracts approximately 5,000 visitors during the three-day festival.

Recommended Improvements

The Plan recommends a number of improvements to address identified deficiencies. These are broken down by category below.

Connectivity Improvements

- Waterfront Path – 10- to 12-foot wide path. Butler Bridge Parking lot to 1st Street and west of 1st Street to railroad tracks
- A Street – Business Loop 20 to 1st Street – replace and repair existing sidewalk
- Depot Slough Bike/Pedestrian Crossing – West end of Waterfront Path to Yaquina Bay Drive. Including connecting sidewalks and fence between railroad tracks, railroad crossing panels and signage
- Waterfront Path and 1st Street – Boardwalk, crosswalk at 1st Street, connecting sidewalks, speed bumps near crossing, warning signage, and removable bollards
- Butler Bridge Road – 1st Street to Main Street/2nd Street crossing. Cyclone fence on west side of road
- Yaquina Bay Road – Slough Bridge to Business Loop 20 – 8-foot concrete sidewalk on west side of road
- A Street – Railroad crossing between Business Loop 20 and 1st Street – Improve the railroad crossing pavement surface with concrete panels.
- Amenities and signage throughout the study area – Wayfinding and/or interpretive signage, as appropriate.
- NW 1st Street – A Street to Butler Bridge Road – Median with low height vegetation. 10-foot wide crosswalk, 6-foot wide sidewalk on north side of 1st Street, signage, and concrete rail panels
- NW 1st Street – Butler Bridge Road to Main Street – Curb extensions, 10-foot wide crosswalk across 1st Street, angle parking on south side of the street. Revise traffic flow and control – Convert 1st Street from two-way to one-way between Main Street and Butler Bridge Road.
- Butler Bridge Road and Main Street – Remove existing crosswalk on Butler Bridge Road, add new crosswalk on Butler Bridge Road and through moorage parking lot. New 8-foot wide concrete railroad crossing panel, directional signage to moorage entrance, warning signage for crosswalk
- Butler Bridge Road and 2nd Street/Main Street (underway) - Realign intersection; add curb extensions, new sidewalks, 10-foot crosswalk. New railroad crossing panel, warning signage at crosswalk
- Butler Bridge Road and 2nd Street/Main Street - Realign intersection, realign driveway to moorage parking lot to align with Butler Bridge Road at 2nd Street/Main Street intersection

Relevance to the Toledo TSP: The TSP process will consider projects from the Waterfront Connectivity Plan to include in this TSP, as appropriate.

Toledo Transportation System Plan (1995, not adopted)

The City of Toledo started the last TSP effort in 1994 and produced a TSP in 1995 that was not adopted by the City Council. The document was reviewed to determine which elements, if any, are relevant to this TSP process, and potentially which goals, objectives, performance measures; analysis of conditions and alternatives, and proposed improvement projects should be included.

TSP Goals

Transportation Circulation/Safety/Mobility

- Maintain vehicle capacity and increase safety on Business Loop 20 within the City.
- Ensure sufficient capacity to accommodate future travel demand (vehicular, bicycle, pedestrian, et cetera) on Toledo arterials and collectors.

- Identify potential improvements to the local circulation system in an effort to encourage visitors to come into Toledo.
- Improve safety at the US 20/Business Loop 20 intersections.
- Identify opportunities for an additional connection between Business Loop 20 and US 20, roughly midway between the two existing intersections.
- Limit the development of new cul-de-sac streets to situations where continuation of the road at some time in the future is unlikely.

Coordination

- Identify methods to ensure future coordination of transportation planning and project development activities with Lincoln County and ODOT.
- Identify the continued role of the public in decision-making on transportation projects.
- Develop a coordinated approach to the operation, development and maintenance of facilities jointly managed by the represented jurisdictions.

Community Goals

- Identify strategies to improve the aesthetic character of Toledo's transportation system and methods of implementation.
- Landscape transportation facilities to complement neighborhood character and amenities.
- Design transportation facilities to preserve and be consistent with the natural and built environment.
- Preserve key view corridors.

Economic Development Goals

- Identify facility management strategies to balance the need to serve statewide traffic on state highways with the need to support local business activities.
- Identify priority transportation projects needed to support the location of new business, expansion of existing businesses, and other community development objectives in Toledo.
- Maintain existing rail service to commercial and industrial sites.
- Ensure an adequate truck route network to reduce commercial/neighborhood conflicts.

Bicycles and Pedestrians

- Improve the bicycle and pedestrian transportation system for both internal circulation and linkages to regional travel.
- Encourage bicycle storage facilities and parking within development projects, in commercial areas and in parks.

Public Transportation

- Work with the Lincoln County Council on Aging to meet the needs of the transportation disadvantaged including improved dial-a-ride service.

Capital Improvements and Financing

- Fund growth-related traffic improvements through development fees or other methods that assign growth-related improvement needs to new development.
- Pursue a range of funding sources including Federal, State and local sources (e.g. loans, matching funds) for transportation improvements.

Existing and Future Conditions

The TSP analyzed the existing (1995) conditions for traffic, pedestrians, and bicyclists within the City. All study area intersections operated at standard. Specifically, the US 20/Western Loop intersection had a Level of Service (LOS) of D, and US 20/Business Loop 20 had a LOS of E, both of which are within standards.

Pedestrian facilities were mostly in the commercial business areas and near City Hall, and there were some facilities near the schools and Georgia Pacific Industrial Park. There are limited bicycle paths, and there are no on-street bike lanes. The steep terrain and lack of system makes it difficult for commuting and recreational bicycling in Toledo.

Future traffic conditions in 2015 show that two intersections in Toledo would fail to meet standard: US 20/Business Loop 20 (west) and US 20/OR 229, with a LOS of F. This would be the result of expected population growth and anticipated land use development within the City. The TSP used these existing and future conditions to develop the recommended improvements discussed below.

Preferred Transportation System Plan

Business Loop 20 and A Street Intersection

The preferred alternative is to modify the phasing of the traffic signal to provide split phasing for A Street approaches, providing full protection to all critical movements at the intersection and eliminate the sight distance deficiency.

Business Loop 20/Alder Street/NW 1st Street Intersection

There are both short- and long-term recommendations at this intersection. The short-term recommendation is to provide signage on the east approach of Business Loop 20 as an advanced warning of a limited sight distance intersection. This would include prohibiting southbound cross-street movements from Alder Street, and providing a detection loop on the west approach of 1st Street to Alder Street. There would be warning signs on both sides of Alder Street facing the Business Loop 20 intersection with flashing yellow lights.

The long-term recommendation at this intersection is to modify NW 1st Street to be one-way westbound between Alder Street and Main Street. This improvement would alleviate the confusion and congestion at the intersection, and eliminate the need to stop vehicles on the 20+ percent grade on NW 1st Street between Main and Alder Street.

East Slope Road/10th Street

The preferred alternative is to formalize the intersection into a four-legged intersection with stop sign controls on two or all four of the legs. This would require minor reconstruction on the south East Slope Road approach to align the intersections. Sidewalks and crosswalks would be added to improve the safety for pedestrians crossing to and from the park.

US 20/East Business Loop 20

There are both short- and long-term alternatives for this intersection. The short-term recommendation would add signage indicating exit/entrance points, yields, and stops. It would also require maintenance of a higher level of striping for the intersection so that the channelization can be seen and understood.

The long-term recommendation would provide raised channelization, potentially with low-level vegetation or beautification. This would better identify and define the routes for permitted movements at the intersections, and allow for safe areas to add signing to improve driver understanding.

US 20/West Business Loop 20/OR 229/Western Loop

This is the most complex of the intersections studied in the 1995 TSP, and two alternatives were developed. The intention at the time was to forward both concepts as recommendations for ODOT to consider in the near future.

Alternative A includes adding a traffic signal and reconstructing the south leg of OR 229 to create a 90-degree angle with US 20. Other aspects of the alternative include adding exclusive lanes for the northbound lefts, through

movements, and rights from OR 229, and restriping the southbound approach to accommodate similar approach lanes. The eastbound to northbound free right-turn lane would be maintained from US 20 to OR 229. This would also require a left turn acceleration lane on US 20 for the northbound to westbound left turn from Business Loop 20. US 20 would need to be widened to provide enough distance to merge the left turning traffic with westbound through traffic on US 20. Left turns would be prohibited from Western Loop to US 20, and signs would be added on Western Loop to direct traffic to OR 229 for access to US 20 eastbound.

Alternative B includes the same traffic signal and reconstruction of OR 229; this alternative is different at US 20 and the Business Loop 20 intersection. The Business Loop 20 approach to US 20 would be modified to serve one-way traffic southbound from US 20. Only eastbound traffic from US 20 and southbound left turning traffic from Western Loop would have access to this section of Business Loop 20. Business Loop 20 would widen to two southbound lands to provide a left turn lane to the Dairy Queen and a left turn lane to OR 229 northbound. South of the OR 229 intersection, Business Loop 20 would return to two-way traffic. This alternative would require properties southwest of Business Loop 20 to have a modified driveway entrance located as the fourth leg of the Business Loop 20/OR 229 intersection.

Roadway Classification

In addition to the roadway project recommendations, the 1995 TSP suggested classification for the roadways in Toledo based on the capacity of the system, surrounding land uses, and trip purposes. Roadway classifications also include specific design elements, discussed below.

Principal Arterial (Statewide Highway)

US 20 is the principal arterial in Toledo. Principal Arterials are intra-city and provide links to the interstate system. Bike lanes should be provided on Principal Arterials.

Arterial

Business Loop 20 is recommended as an Arterial. Arterials should provide bike lanes and sidewalks and serve as the primary route for travel within and between community subareas.

Major Collector

Major Collectors serve traffic from local streets or minor collectors to the arterial system. The recommended Major Collectors include:

- Sturdevant Road (south from Business Loop 20 through town)
- 10th Street (Sturdevant Road to East Slope Road)
- East Slope Road (10th Street to Butler Bridge Road
- Butler Bridge Road (south from NW 1st Avenue through town)
- NW 1st Avenue (Butler Bridge Road to A Street)
- A Street (NW 1st Avenue to Business Loop 20)
- Siletz Highway (north from US 20)

Minor Collector

Minor Collectors provide access to abutting properties and serve local access needs of neighborhoods, including limited through traffic. Sidewalks and bike lanes should be provided consistent with the sidewalks and bicycle facility plan. The recommended Minor Collectors include:

- East Slope Road (Business Loop 20 to 10th Street)
- Arcadia Drive/Road (US 20 to Business Loop 20)
- Burgess Road (Arcadia Drive to Business Loop 20)

- Skyline Drive (Arcadia Drive to Business Loop 20)
- Sunset Drive (Skyline Dr to Business Loop 20)
- Dundon Road (Sunset Drive to Business Loop 20)

Local Street

Local streets provide direct property access, and are not intended to serve through traffic. All other streets in the City not mentioned above are recommended as local streets.

Truck Route

A Truck Route is signed as the primary access for trucks to the industrial area in Toledo. These routes are meant to carry a heavy volume of trucks, will need special considerations for traffic control, road geometry, access during construction, and possible traffic, pedestrian, and bicycle conflicts. The recommended Truck Routes include:

- Business Loop 20
- Sturdevant Road
- Butler Bridge Road
- 10th Street (Sturdevant Road to East Slope Road)
- East Slope Road (10th Street to Butler Bridge Road)
- 1st Street (Butler Bridge Road to A Street)
- A Street (NW 1st Street to Business Loop 20)
- Business Loop 20 (A Street to US 20)

Modal Plans – Transit, Sidewalk, and Bicycle

The TSP includes modal plans specific to transit, pedestrians, and bicyclists. The recommendations are included below.

Transit

Transit recommendations are to continue to support Lincoln County's East Line Feeder and Dial-a-Ride systems. The City should support the County in efforts to secure funding of transit services.

Sidewalk Facility Plan

The goal is to provide a comprehensive sidewalk network by providing continuous facilities between the retail area, schools, and entrances to residential neighborhoods. In some areas, sidewalks are recommended on both sides of the street, in others, only one side is recommended. Sidewalks along Business Loop 20 need to be 8-feet wide according to the Public Improvement Design Standards, all other sidewalks are 6 feet, with a minimum of 5 feet.

Sidewalks are recommended on the following roads:

- Sturdevant Road
- Business Loop 20 (where none currently exist)
- Burgess Road
- East Slope Road
- Lincoln Way
- Altree Lane
- Olson Road

- SW 2nd Street
- Arcadia Drive
- 5th Street

Bicycle Facility Plan

The TSP recommends 26 miles of bike lanes to be added to existing streets in Toledo, providing access to major business, residential, and institutional areas in Toledo. Sturdevant Road is specifically listed as an important location for bike lanes. Bike lanes on Business Loop 20 would be 6-feet wide, all other bike facilities would be 5-feet wide, or a minimum of 4-feet wide if topographical constraints preclude the 5-foot width.

Relevance to the Toledo TSP: While the 1995 TSP was never adopted, the goals and objectives, and existing and future conditions, along with some of the suggested alternatives provide good background for the current TSP process to build upon. The current TSP will consider the recommendations included in this document and include them where appropriate.

Applicable Goals and Objectives

Table 2 shows the general categories of goals and objectives in the plans reviewed above. For the most part, these goals and objectives should be included in this TSP effort, with consideration of the following additional goals:

- Equity – Transportation impacts do not harm or benefit one population group disproportionately (low-income, transit-dependent, age groups, etc.).
- Business and Residential impacts – The effects of transportation projects on existing residential and businesses including right-of-way acquisition and other impacts.
- Ability to be Implemented – The transportation project should have community and political support and/or a champion to ensure the project is implemented.

TABLE 2

Goals and Objectives from Previous Planning Efforts in Toledo

	Lincoln County TSP	2020 Vision for Toledo – Comprehensive Plan	Port of Toledo Waterfront Development Strategic Plan	Port of Toledo Waterfront Connectivity Plan	Toledo TSP (1995, not adopted)
Accessibility	✓	✓	No goals included in this plan.	✓	✓
Aesthetics				✓	✓
Citizen Involvement	✓	✓			✓
Coordination	✓	✓			✓
Cost-Effective		✓			✓
Economic Development		✓		✓	✓
Environment	✓	✓			
Freight	✓	✓		✓	
Mobility	✓	✓		✓	✓
Public Transit	✓	✓			✓
Pedestrian and Bicycles	✓	✓		✓	✓
Safety	✓	✓			✓

Next Steps

Available funding for roadway, pedestrian, bicycle, and transit improvements will be determined in Technical Memorandum #2, and the Project Advisory Committee reviewed both memoranda at the July 17th meeting. Goals from this memorandum will be used to formulate the goals for the Toledo TSP, discussed by the PAC.

Appendix B
Transportation Funding

Toledo Transportation System Plan: Funding for Roadway, Pedestrian, Bicycle, and Transit Improvements

This memorandum describes expenditures for transportation improvement projects within the city of Toledo over the past 5 to 10 years through various funds and grants. Additionally, this memorandum describes established and potential funding sources at the local, state, and federal levels for future transportation projects in Toledo.

City Budget

The city of Toledo collects revenue from a variety of sources that can be used to fund roadway, pedestrian, bicycle, and transit improvement projects. The funds and expenditures from the City budget between fiscal years 2007 and 2011 are described below. These funds indicate the types of transportation projects constructed in previous years, except for any City participation in Lincoln County Transit projects. Table 1 shows the revenues in each of the funds for fiscal years 2007 through 2011. Where revenue originates for these budget line items is described further in this memorandum under Local Funding Sources.

City Street Fund

The City's Street Fund accounts for the maintenance, operation, and construction of the City's streets. Sources of revenue for this fund include shared State Highway Funds (from the highway tax), franchise fees, and the street utility fee. Totals for the Street Fund vary between $550,000 and $980,000 in budget years 2007-2011. The City received approximately $180,000 from the State of Oregon Highway Tax in FY 2010 (included as part of the total street revenue of $919,305 in Table 1), with $204,000 budgeted for the current year (FY 2011) for the Street Fund. This revenue is distributed to the City based on formula allocation and varies each depending on State Highway Fund revenues. One percent of these funds are devoted to bicycle and pedestrian projects, per state law.

Transportation Systems Development Fund

The Transportation Systems Development fund is used to accumulate funds for future road system development costs. System Development Charges (SDCs) provide the revenue for this fund, and are charged when land is developed in Toledo. The City has collected SDCs in the past, and is currently collecting them, but between fiscal year 2009 and 2011, the City did not collect SDCs.

Footpaths and Bicycle Trail Fund

The City has a dedicated fund for Footpaths and Bicycle Trails, which is used to account for required expenditures of State Highway Funds dedicated to the development and maintenance of footpaths and bicycle trails. Revenues in this fund come from state highway taxes. The state requires that one percent of highway funds be spent on bicycle and pedestrian facilities.

Street Reserve Fund

The Street Reserve Fund is used to accumulate funds for future maintenance, operation, and construction of city streets. Revenues in this fund come from transfers from City Street Fund. At the end of fiscal year 2011, there was $44,349 in the Street Reserve Fund.

Projects Fund Capital Outlay

When Business Loop 20 was transferred from ODOT jurisdiction to the City's jurisdiction, the City reserved funds for upkeep required as part of the transfer. In fiscal years 2007, 2008, and 2009, $10,000 was set aside. The City no longer reserves funds for Business Loop 20.

TABLE 1
Transportation Funds from the Toledo Budget FY 2007 through 2011

Fiscal Year	Fund Category	Revenue
2007-2008	Street Revenue	$575,330
	Projects Fund Capital Outlay – Highway 20 improvements	$10,000
	Footpaths and Bicycle Trails Revenues	$10,110
	Street Reserve Revenues	$31,725
	Transportation System Development Revenues	$3,940
2008-2009	Street Revenue	$550,800
	Projects Fund Capital Outlay – Highway 20 improvements	$10,000
	Footpaths and Bicycle Trails Revenues	$12,090
	Street Reserve Revenues	$29,745
	Transportation System Development Revenues	$66,010
2009-2010	Street Revenue	$633,300
	Projects Fund Capital Outlay – Highway 20 improvements	$8,350
	Footpaths and Bicycle Trails Revenues	$13,655
	Street Reserve Revenues	$34,490
	Transportation System Development Revenues	$4,000
2010-2011	Street Revenue	$919,305
	Footpaths and Bicycle Trails Revenues	$15,330
	Street Reserve Revenues	$44,425
	Transportation System Development Revenues	$0
2011-2012	Street Revenue	$979,310
	Footpaths and Bicycle Trails Revenues	$17,473
	Street Reserve Revenues	$54,610
	Transportation System Development Revenues	$12

Source: City of Toledo Budgets 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012

Funding Sources for Recent Projects

There were four transportation-related projects in the past 5-10 years in the City:

The most recent roadway project in the City is the Butler Bridge/Main Street/2nd Street realignment and crosswalk project finished in early July 2012. This project was funded in part by federal bicycle-pedestrian dollars ($180,000), the City contributed $10,000 from the Street Fund, and the Port of Toledo contributed $10,000.

The recent transient dock improvements at the Port of Toledo were funded through a combination of Federal and state grants including $90,000 from the Oregon State Marine Board, $380,000 from the Federal Boating Infrastructure Grant, $20,000 from the state, and $60,000 from the Federal Clean Vessel Act Funds. This project will celebrate its opening on July 28, 2012.

The Downtown Beautification project added hanging flower baskets and upgraded the light poles on Main Street. That project was funded through local funds (for the hanging baskets), and the light poles were funded through Federal Main Street Rehabilitation funds and a Forest Incentives Grant.

The Slough was dredged in 2010 and 2011 to continue to allow marine freight traffic into the Port of Toledo. The dredging was funded in part from a Marine Navigation Fund ($278,000), a federal earmark of $680,000, stimulus funds ($400,000), and $50,000 from the Port of Toledo.

In addition to these discrete projects, when Business Loop 20 was transferred from ODOT jurisdiction to the City, ODOT provided the City with $20 million to make improvements to the roadway. All other transportation projects in the last 5 to 10 years were overlay and upkeep, and funded through the City's Street Fund.

Established Funding Sources for Future Projects

A variety of established federal, state and local funding sources are available to fund future transportation projects in the Toledo TSP, depending on the eligibility requirements.

Federal Funding Sources

Federal funding currently accounts for approximately 20 percent of total funding for transportation projects in Oregon. Toledo is not located within a Metropolitan Planning Organization (MPO), and federal funding is instead made available through state or county programs via the Cascades West Area Commission on Transportation (CWACT). CWACT generally programs federal funding for regional and local projects that affect the state transportation system, though some funds are made available directly for local projects.

Most federal funding is available through the federal surface transportation program, supported by tax revenue to the Highway Trust Fund.

Federal Highway Trust Fund

Revenues to the HTF are comprised of motor vehicle fuel taxes, sales taxes on heavy trucks and trailers, tire taxes, and annual heavy truck use fees. The fund is split into two accounts – the highway account and transit account. Funds are appropriated to individual states on an annual basis. The 2005 legislation for the federal surface transportation program (Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users, referred to as SAFETEA-LU) was replaced in July 2012 with Moving Ahead for Progress in the 21st Century (MAP-21). This new 2-year program keeps total federal funding at the SAFETEA-LU rate, consolidates the 90 current programs under SAFETEA-LU into 30, eliminates transportation earmarks, and increases funding for the Transportation Infrastructure Finance and Innovation Program (TIFIA). The TIFIA program provides loans to finance transportation projects of regional or national significance, and seeks to leverage federal transportation dollars with local funds and private investment. Toledo may be eligible to receive funding under the expanded TIFIA program. Projects using funds from the Highway Trust Fund must be included in the Statewide Transportation Improvement Program (STIP). Most federal funds must be matched with state or local funds; the current matching ratio for most projects is 10.27 percent.

Federal Transit Administration grants

The Federal Transit Administration (FTA) manages a number of grants available to transit agencies nationwide. The city of Toledo could work with Lincoln County Transit to fund transit projects serving the City.

Transit Expansion and Livable Communities Grants

Approximately $2.4 billion in funds was appropriated for this program in the current budget year. The goal of this initiative from the Federal Transit Administration is to advocate for and support projects and programs that improve the link between public transit and communities. Several formula and competitive grant programs are available through this initiative. Policy goals include better integrating transportation and land use planning, fostering multimodal systems, providing transportation options and improving access, reducing emissions, and increasing public participation in transportation decision-making. Toledo and Lincoln County Transit may be eligible for grant funding under this program.

Formula Grants for Other than Urbanized Areas (5311)

These grants are given to the states for distribution to rural (<50,000 people) communities. This program is intended to enhance access to services, assist in development or maintenance of public transportation systems, and assist in development of intercity bus service. Lincoln County Transit currently receives operating funds of approximately $350,000 per year from this source.

Transportation for Elderly Persons and Persons with Disabilities (5310)

This formula grant program is managed by the state, with funds provided for capital projects that enhance the accessibility of older adults and those with disabilities. Lincoln County Transit will receive $660,000 in capital grant through this FTA program this year.

Section 319 Non-Point Source Implementation Grants

Transportation projects that integrate stormwater treatment may be eligible to receive federal funding through Section 319 grants. This program, administered by the Oregon Department of Environmental Quality (DEQ), provides federal funds to address non-point pollution, including stormwater improvement projects. Funding is very competitive, with less than $500,000 available statewide in the most recent grant cycle. Projects that could be eligible for funding include applications of pervious pavements, stormwater detention and retention, and other low impact stormwater development tactics. Funds can be used for all or a portion of a project, but require a minimum 40 percent match. The Yaquina River is on the Clean Water Act 303(d) list for a number of pollutants, and projects within the river basin may be attractive for funding.

State Funding Sources

State funds are distributed via the Oregon Transportation Commission (OTC). The State Highway Fund is the most significant source of funding for the programs described below. To be eligible for funding, projects must be programmed through the Statewide Transportation Improvement Program (STIP).

State Highway Fund

State Highway Fund Revenues are received from a combination of fuel taxes, vehicle registration and title fees, driver's license fees, the truck weight-mile tax and federal monies. Fund revenues may only be used for construction and maintenance of state and local highways, bridges, and roadside rest areas. State law (ORS 366.514) specifies that a reasonable amount of highway funds must be spent on walkways and bikeways, and that in any given fiscal year, a minimum of 1 percent of State Highway Funds must be spent on these projects by funding recipients. However, cities and counties receiving may allocate these funds to a reserve fund, which they must expend within a period not to exceed 10 years. All funds must be expended on projects within road, street, or highway rights-of-way.

State Highway Funds are appropriated by the OTC on an annual basis. Sixty percent of fund revenues are kept at the state level, 24 percent is distributed to counties based on the number of vehicles registered in each county, and 16 percent is distributed to cities based on population.

Statewide Transportation Improvement Program (STIP)

The STIP is the 4-year capital improvement program for the state of Oregon. It provides a schedule and identifies funding for projects throughout the state. Projects included in the STIP are generally "regionally significant" and have been given a high priority through planning efforts and by the relevant area commission on transportation (ACT) and metropolitan planning organization (MPO). For Toledo, the relevant ACT is the Cascades West Area Commission on Transportation (CWACT). The current 2010-2013 STIP has six program categories: modernization, safety, preservation, bridge, operations, and special programs. All regionally significant state and local projects, as well as all federally-funded projects and programs, must be included in the STIP. Toledo does not have any projects in the 2010 – 2013 or draft 2012 – 2015 STIP.

The 2010-2013 STIP includes projects totaling $1.25 billion and covers the period from October 2009 to the end of September 2013. The 2012-2015 STIP is currently drafted and will be approved pending federal endorsement. About 80 percent of projects are expected to use federal funds. Federal funding levels projected for the 2010-2013 and draft 2012-2015 STIP are assumed to be at the same annual level distributed under SAFETEA-LU from 2005 to 2009.

Toledo is eligible for funding from four of the six categories listed above – the City is not eligible to directly receive pavement preservation dollars, which are distributed to the Oregon Department of Transportation for highway pavement maintenance. The City additionally is unlikely to be eligible for the modernization funds, as US 20 through Toledo is unlikely to experience capacity issues. Projects within the Toledo TSP may fall within the following four categories:

- Safety**:** improvements to locations on the state highway system where frequent and serious incidents occur.
- Bridge Replacement and Rehabilitation**:** capital projects that replace or rehabilitate state or local bridges.
- Operations projects: system management and improvements that lead to more efficient and safer traffic operations and greater system reliability.
- Special Programs**:** these include bicycle and pedestrian improvements, public transit, and Transportation Enhancement program.

These programs are described in detail below.

Safety

Safety funds are devoted to cost-effective improvements to frequent or severe incident locations. Funding is prioritized toward projects with the highest likelihood of reducing fatalities or serious injuries. Project need is determined by evaluating specific problem segments and very specific locations on state highways. Projects that would improve safety on US 20 may be eligible for funding under this program. Projects addressing intersection safety at the junction of US 20 and OR 229 are eligible to receive funding through this program.

Bridge Replacement and Rehabilitation

The State Bridge Program and Local Bridge Program comprise this funding category. Both programs are potentially applicable to the Toledo TSP. These programs fund replacement or rehabilitation of state or locally-owned bridges that have been determined to be structurally deficient, functionally obsolete, or physically deteriorated. The State Bridge Program funds bridge projects on state highways, and the Local Bridge Program provides assistance to replace or rehabilitate locally-owned bridges. Bridges must be 20 feet or longer and be subject to National Bridge Inspection Standards to be eligible for funding from either program.

Operations Projects

The aim of this program is to improve efficiency of the transportation system through replacement of aging infrastructure, or improvements that allow the existing system to meet increased demands. There are four subcategories of eligible projects: Intelligent Transportation Systems (ITS); Signs, Signals and Illumination; Slides and Rockfalls; and Transportation Demand Management (TDM), or the Transportation Options program.

The ITS program funds strategies and technology improvements, including traffic incident management, arterial and freeway management, and weather and incident management projects. Signs, Signals and Illumination projects include signal replacement, installation of detection loops, signalization, and replacement of deteriorated street illumination systems. The state identifies slide and rockfall projects based on potential risk to the travelling public, traffic volumes, and the ODOT Rockfall Hazard Rating System. Finally, Transportation Demand Management projects are targeted to specific urban areas of the state, and aim to enhance mobility, decrease congestion and enhance efficiency.

Toledo is eligible to potentially receive funds listed above.

Special Programs

A number of special programs are included in the STIP. This section describes those programs that may be applicable to projects in the Toledo TSP.

- **Public Transit Programs**: ODOT manages a number of state and federal transit programs. While the City does not manage transit service, Toledo could work with Lincoln County Transit to fund transit projects important to the City.
- **ODOT Bicycle and Pedestrian Program Grants:** Most funds in this program are distributed through competitive grants to local governments. A minimum of 1 percent of annual state highway revenues are devoted to this program, with about $5 million in funding available every 2 years. All projects must be within public rights-of-way; recreational trails outside of the right-of-way are not eligible. Grant cycles occur every 2 years and local match is generally expected. Pedestrian and bicycle projects in Toledo within the public right-of-way are eligible to apply for grants from this program.
- **Transportation Enhancement Program**: The state manages this federal-aid program that provides funds for a wide variety of transportation projects that improve aesthetics, improve safety, and add value to the transportation system. There are 12 categories of funding, including bicycle and pedestrian projects, landscaping, archaeological planning and research, historic preservation, stormwater mitigation, and others. ODOT expects to have $7.4 million available each year from 2012 to 2015 for competitive grants, though $20 million in competitive funding was made available this fiscal year. A wide variety of transportation projects in Toledo would be eligible for funding from this grant source. A match of at least 10.27 percent is required for all grants.
- **Immediate Opportunity Fund**: This fund is discretionary, and provides funding for transportation projects essential for supporting site-specific economic development projects. These funds are distributed on a case-by-case basis in cooperation with the Oregon Economic and Community Development Department. These funds can only be used when other sources of financial support are insufficient or unavailable. These funds are reserved for projects where a document transportation problem exists, or where private firm location decisions hinge on the immediate commitment of road construction. A minimum 50 percent match is required from project applications.
- ***Connect*Oregon**: *Connect*Oregon funds are lottery-backed bonds distributed to air, marine, rail, transit and other multimodal projects statewide. No less than 10 percent of *Connect*Oregon IV funds must be distributed to each of the five regions of the state, provided that there are qualified projects in the region. The objective is to improve the connections between the highway system and other modes of transportation.
- **Special City Allotment Grant:** Special City Allotment Grants are made up of $1 million in state gas taxes distributed annually among cities with population of less than 5,000. ODOT sets the distribution and dollar amount by agreement with the League of Oregon Cities. Half of the funds come from the cities' share of gas tax revenues and half comes from ODOT's share of the State Highway Fund. Cities can receive half of the maximum $25,000 grant amount at the beginning of the project, with the final payment due upon completing of the project.

Oregon Parks and Recreation Local Government Grants

The Oregon Parks and Recreation Department (OPRD) administers this program using Oregon Lottery revenues. These grants can fund acquisition, development and major rehabilitation of public outdoor parks and recreation

facilities. OPRD has distributed $4 million annually under this program through a competitive grant process. A match of at least 20 percent is required.

Oregon Transportation Infrastructure Bank (OTIB)

The OTIB is a statewide revolving loan fund available to local governments for many transportation infrastructure improvements, including highway, transit and non-motorized projects. Most funds made available through this program are federal, and roads must be functionally classified as a major collector or higher to be eligible for loan funding.

Local Funding Sources

This section describes existing local funding sources for the city of Toledo. Major local funding sources include general fund revenues, road maintenance fees, and system development charges, plus the City's share of State Highway Fund revenue.

Road Maintenance Fees

This fee is assessed to all residential and non-residential properties in the city of Toledo to fund upkeep of the City's road system. Approximately $110,000 in fee revenue was forecast for FY 2011. These revenues are made available exclusively for road maintenance (TCC 13.40.040). These fees represent a significant source of funding for maintenance of existing roads, but are unavailable for new capital improvement projects.

System Development Charges

System development charges (SDCs) are one-time fees on new development that compensate for the increased traffic associated with new development. The City authorized the collection of system development charges (SDCs) for all infrastructure categories in 2010. SDCs cannot be expended on transportation operations or maintenance projects, and may be used exclusively for capital improvement projects. These charges are payable to the City when a building or other development permit is issued. In 2011, no transportation SDCs were collected and the 2012 budget forecasts approximately $2,000 in SDC revenue. The outlook for SDC revenue is very uncertain, given limited development during the current economic downturn.

Public Utility District Franchise Revenue

Forty percent of this revenue source is transferred to the roads fund, and monies are available for transportation capital improvements, maintenance and operations. Approximately $350,000 in revenue was forecast for the 2012 budget year from this source, representing a significant share of total local transportation resources.

Potential Other Funding Sources for Future Projects

The following funding sources and strategies may be available to the City in addition to the established programs listed above.

Department of Energy: Energy Efficiency and Conservation Block Grants (EECBG)

This program was initially funded through the American Recovery and Reinvestment Act of 2009. The current funding authorization expired in April 2012. Future funding for this program is currently uncertain. The program provided formula grants to states and competitive grants for projects that reduce fossil fuel emissions, reduce total energy use of eligible grantees, and improve energy efficiency of transportation and other sectors. Toledo may be eligible for competitive grants if this program is funded in future federal budgets.

Increased State Highway Fund revenues

Gas tax revenue to the State Highway Fund has not kept pace with inflation or demands of the state's transportation system. ODOT is exploring new revenue models to meet state transportation needs, which may result in increased funds for state transportation programs in coming years. Oregon is actively exploring a vehicle miles travelled (VMT) tax to replace the current gas tax, with full implementation of any VMT program expected to take up to 20 years.

Local Improvement Districts (LID)

LIDs are created by property owners within a district of a city to raise revenues for constructing improvements within the district boundaries. LIDs may be used to assess property owners for improvements that benefit properties and are secured by property liens. Property owners typically enter into LIDs because of the economic or personal advantages of the improvements. The City would work with property owners to acquire financing at lower interest rates than under typical financing methods. The formation of LIDs is governed by state law and local jurisdictional development codes. LID revenues can only be used on capital projects. LID revenues can be combined with other revenue sources to fully fund projects.

Roads District

A Road District is essentially a type of limited LID. Oregon state law (ORS 371) allows for the formation of special roads taxing districts for purposes of constructing and maintaining roads within the taxing district boundaries. A roads district would be a separate entity from the city of Toledo, with its own property tax levy rate and an elected board of commissioners. The creation of a roads district must be voted on by those within the potential district boundaries.

Tax Increment Financing (TIF)

The city of Toledo must first designate an urban renewal area within the City to implement TIF. The county assessor "freezes" the assessed value of properties within the urban renewal area, and the property taxes collected above those that were collected when the property values were frozen are used to pay for improvements within the urban renewal area. TIF assumes that property values within the urban renewal area will increase over time. TIF is primarily an economic development tool, but may be useful for targeting areas in the City with serious improvement needs.

Revenue and General Obligation Bonds

Bonding allows municipal and county government to finance construction projects by borrowing money and paying it back over time, with interest. Financing requires smaller regular payments over time compared to paying the full cost at once, but financing increases the total cost of the project by adding interest. General Obligation Bonds are often used to pay for construction of large capital improvements and must be approved by a vote of the public. These bonds add the cost of the improvement to property taxes over a period of time. Toledo could consider issuing a General Obligation Bond to pay for significant transportation improvement projects identified within the City.

Parking Fees

The City does not currently charge for parking. Income generated by charging parking fees could be used to implement a variety of transportation projects. The collection system would require purchase of parking meter infrastructure, careful study of where to install meters, and analysis of the appropriate fee amount to charge drivers.

Next Steps

The Project Advisory Committee (PAC) reviewed funding information found in this memorandum at the July 17th meeting. Additional funding sources and information were then included. When projects are developed for the Transportation System Plan, these existing and potential future funding sources will be revisited. This will help determine if the projects in the TSP are eligible for these funding sources.

Appendix C
Transportation Deficiencies and Needs

Toledo TSP: Transportation Deficiencies and Needs

This memorandum describes the existing (2012) and forecasted future (2035) transportation conditions in Toledo, identifies deficiencies in the transportation system, and the need for transportation improvements indicated by these conditions. This report evaluates the roadway and freight network, public transportation routes and service, bicycle facilities, pedestrian facilities, rail facilities, airports, and pipelines within the City of Toledo. It also examines traffic safety conditions, evaluates local population demographics, reviews land use patterns, and analyzes on-street and off-street public parking usage on Main Street in downtown Toledo.

The Project Team gathered information on the existing system and identified deficiencies through various methods including a site visit in July 2012; traffic counts collected by the Oregon Department of Transportation (ODOT) in June 2012; stakeholder interviews in July 2012; Geographic Information System (GIS) map data analysis; review of existing local and regional plans; and evaluation of safety data collected from the City of Toledo and ODOT.

The information in this memo serves as the starting point for a community discussion about the current state of the transportation system in Toledo. This information will be used to help inform project ideas and alternatives to be developed, reviewed, and included in Toledo's Transportation System Plan (TSP).

Introduction

Purpose of Transportation System Plan

The Toledo TSP is a long-range (20 year) plan that identifies ways to improve connectivity and mobility for all travel modes, support planned land uses and economic development, and reduce reliance on the automobile. The TSP serves as the transportation element of the City's Comprehensive Plan. The TSP will establish a system of transportation facilities and services to meet state, regional, and local needs, while also providing a rationale for making transportation investments and land use decisions. The plan is required by Oregon's *Transportation Planning Rule* and must be consistent with existing local and state policies, plans, and rules.

Study Area

The City of Toledo is located in central Lincoln County, along the Yaquina River and according to the 2010 US Census had a population of 3,465. It is roughly five miles east of Newport, the County seat. Figure 1 shows the study area in more detail. The City's transportation network is a diverse collection of multimodal facilities including State, County, and City roadways, the Port of Toledo, the Toledo State Airport, and the Portland and Western Railroad (PNWR).

The Toledo TSP study area is based on the Toledo Urban Growth Boundary (UGB). The northern City limit boundary follows US 20 – Corvallis Newport Highway and Skyline Drive. Wagon, East Slope, and Sturdevant roads make up the eastern boundary. The Yaquina River serves as the southern boundary with the exception of a portion of land within the City south of the river along South Bay Road. The western study area limits follow Bay Boulevard, Depot Slough, and Business Loop 20.

Table 1 provides selected demographic, commuting, and employment statistics from the 2010 US Census. Approximately 25 percent of the population in Toledo under 17-years-old and another 12 percent are 65 years old or older. These two populations are likely to be transit dependant or have limited ability to drive a car. Generally, the racial/ethnic distribution is similar to the County and State percentages. Toledo has more individuals with incomes below the poverty line, compared to the County and State; however, the median household income is higher than the County average. Individuals living in poverty are more likely to be dependent on public transit, or other modes, to get to work or access services due to the high cost of owning and operating a vehicle.

Employees in Toledo are more likely to drive alone to work and fewer employees take transit or walk compared to employees in the County and State. This is important to consider when determining deficiencies and needs for the

TSP: few employees may utilize transit because it does not travel at the needed times or locations. The high rate of workers driving alone also has implications on the transportation system; carpooling or increasing the number of employees who take transit or other modes could help address congestion within the City. More than 80 percent of workers have a work commute of less than 30 minutes; indicating that most employees living in Toledo work in the City or in nearby communities, such as Newport or Siletz. Employees in Toledo are more likely to work in manufacturing or transportation/warehousing industries than employees in either the County or the State. This has implications on the transportation system since these jobs are likely to be scheduled in shifts, creating demand from commuting employees on the transportation system during very specific times.

TABLE 1
City of Toledo Demographic Information

	City of Toledo	Lincoln County	State of Oregon
Population:	**3,465**	**46,034**	**3,831,074**
Age 65 and Over	12%	12%	14%
Age 17 and Under	25%	17%	22%
White	90%	88%	89%
African American	1%	0%	2%
American Indian	4%	4%	2%
Asian American	1%	1%	4%
Pacific Islander	0%	0%	0%
Two or more races	4%	4%	3%
Hispanic or Latino*	5%	8%	12%
Median Household Income	**$43,871**	**$39,738**	**$49,260**
Poverty Status:			
Individuals Below Poverty	19%	16%	14%
Workers age 16 and over:			
Drive alone to work	86%	76%	72%
Carpool	9%	13%	11%
Public transit	0%	1%	4%
Walk	2%	6%	4%
Other	3%	2%	3%
Work from home	1%	3%	6%
Workers 16 and over who work outside of home:			
Travel time to work less than 10 minutes	25%	25%	17%
…10 to 14 minutes	16%	22%	17%
…15 to 19 minutes	28%	15%	17%
…20 to 24 minutes	18%	16%	14%
…25 to 29 minutes	1%	3%	6%
…30 to 34 minutes	7%	9%	12%
…35 to 44 minutes	0%	4%	5%
…45 to 59 minutes	0%	2%	6%
…60 or more minutes	6%	5%	6%
Average travel time to work (in minutes)	**17**	**19**	**22**
Jobs in Toledo (employment by place of work)			
Manufacturing	38%	6%	12%
Transportation/ Warehousing	13%	5%	4%

Source: 2010 US Census. Accessed October 2012
*Hispanic or Latino is considered in addition to the general race categories, the percentage total will equal more than 100%

Data Collection

Members of the Project Team visited Toledo to collect data on the existing conditions. Determining the existing conditions provides an understanding of how the network currently operates, what facilities exist, and potential gaps or unmet transportation needs. Data gathered for:

- Bicycle lanes
- Freight routes
- Multi-use paths
- Port facilities
- Public airports
- Public parking availability
- Rail lines and gated crossings

ODOT collected traffic counts to determine traffic operation conditions, including Average Daily Traffic (ADT), truck traffic volumes, and bicycle and pedestrian volumes. The team analyzed 11 study area intersections, including several along US 20 and Business Loop 20. This memo also includes an assessment of safety conditions using crash data provided by ODOT and the City of Toledo. The City's population forecast and ODOT traffic volume trends were used to estimate future baseline traffic conditions for 2035 assuming no improvements to the transportation system.

Stakeholder Interviews

The Project Team conducted five stakeholder interviews with community members to supplement the technical data. Stakeholders included individuals from key organizations (police, fire, and ambulance) and those that who may not otherwise participate in the TSP planning process, such as business owners, representatives from companies that operate within the City, and community members who are not able to make meetings. Stakeholder interviews provided information on safety concerns not recorded in the crash data such as "near misses", concerns with bicycling or walking that would not be reported in the traffic analysis, and other issues important to the community. These interviews were vital in identifying critical issues for further evaluation in the TSP including traffic safety concerns; issues with freight vehicles deviating from designated freight routes; downtown parking usage; and existing deficiencies and needs in the multimodal transportation network. Stakeholders were specifically asked about safety concerns, freight traffic in the City, parking availability, events that create traffic issues within town, and provided feedback on other transportation-related issues they felt should be addressed in the TSP. Information from the stakeholders is included in the appropriate sections throughout this memo.

Executive Summary

This section summarizes the identified deficiencies and needs for the topic areas discussed in this memorandum.

Roads

Most roads in Toledo are limited by steep grades and narrow right-of-way. Many roads are narrow and winding, with little room for shoulders, sidewalks, or bicycle lanes. Collector and arterial roads in Toledo are two lanes with lower speeds that connect the regional system to the local street. Based on a review of past documents, some changes to the functional classifications of collectors and arterials are recommended to be consistent with the current use and function of the roads.

Freight Routes

There are a number of freight routes serving industrial land within the City, on both arterial and collector roads. Stakeholders have indicated that trucks occasionally stray from the signed routes and then get stuck on steep or narrow roads not intended for freight traffic.

Land Use

Industrial land is located along the Yaquina River and the Slough on the south side of the City, adjacent to both general and low density residential areas. These land uses can create conflicting traffic patterns with heavy freight using the same roads as residents. Land use recommendations are not part of the TSP, but are considered from a deficiencies and needs perspective.

Traffic Generators

The main traffic generator in Toledo is the Georgia-Pacific Toledo Pulp and Paper Operations facility (Georgia-Pacific) site, though other traffic generators include businesses and services along Main Street, schools and parks, the Library, Police Department, and Fire Station. These traffic generators impact the transportation system in particular ways:

- The Georgia-Pacific site attracts trips at very specific hours during shift changes, but also freight traffic throughout the day
- Services and businesses attract trips throughout the day, though the grocery store is likely to attract the highest traffic volumes in the afternoon as residents stop at the store on their way home or en route to other activities.

Bicycle and Pedestrian Facilities

There are two signed bike routes in Toledo and only one road with striped bike lanes. Steep and narrow roads make bicycling and walking difficult, though there are sidewalks in the downtown core and along portions of Business Loop 20. Stakeholders indicated that there are gaps in the sidewalks network and a need for a multi-use path along Sturdevant Road to serve both Toledo Elementary and Junior/Senior High Schools. In addition to these gaps, stakeholders identified railroad crossings are difficult for bicyclists and pedestrians, especially the crossing on 1st Street and Butler Bridge Road.

Transit Routes

Lincoln County Transit provides six daily round trips through Toledo, with six stops in town on the Siletz to Newport route. Benton County also runs the Coast to Valley Express intercity route. Very few employees in Toledo take transit to get to work. The limited times and stops in the City may be a barrier to those who would like to take transit but are unable due to these issues.

Freight Rail

Portland and Western Railroad operates the short-line track in Toledo, serving the Georgia-Pacific site. There is one roundtrip train per day, and an average of 6-12 switching movements along the track near Butler Bridge Road downtown. Most railroad crossings are gated; however, it is possible to cross with a train on the tracks from SE 2nd Street onto Butler Bridge Road. Multiple stakeholders indicated that improving rough railroad crossings should be

a high priority. Motorists, bicyclists, and pedestrians have submitted multiple complaints that the crossings are not well maintained and pose a safety hazard. Two crashes were reported by stakeholders at crossings; a bicycle crash and a vehicle/train crash.

Airport

The airport in Toledo accommodates about 22 takeoffs and landings a week for private aircraft (ultralight and single-engine planes) and there are no commercial passenger services. During emergencies, Coast Guard helicopters and Life Flight air ambulances use the airport to transport people and supplies. There are no plans to expand the airport and no plans to change the amount of aircraft using the facility.

Water and Pipeline Facilities

The Port of Toledo owns and operates a boatyard that provides haul-out and dry dock services to about 200 boats a year. Additionally, 50 boats a year come to Yaquina Boatworks for maintenance. The Port of Toledo also provides boat moorage and a transient boat dock for day use on Depot Slough. There is also a boat launch near the Toledo Airport. No freight is unloaded or offloaded at the Port, although the Yaquina River is a navigable waterway.

Water and sewer lines in Toledo are co-located with City-owned streets. The Georgia-Pacific site has a large pipeline connecting two activity areas, as well as a pipeline used to discharge effluent in the Pacific Ocean west of Newport. Northwest Natural operates a high-pressure gas transmission pipeline northeast of the City. There are no plans to expand any pipelines in the City.

Existing and Future Traffic Conditions

The existing conditions operational analysis identified that US 20 at Business Loop 20 (west) does not meet ODOT mobility targets or proposed City mobility standards.

The existing conditions queuing analysis identified the following roadways as having intersection queue lengths that exceed storage:

- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at A Street – east- and westbound approaches

The future no-build operational analysis identified that the following intersections will not meet ODOT mobility targets or the proposed City mobility standards in 2035 (without modifications to the facilities):

- US 20 at OR 229
- US 20 at Business Loop 20 (west)

The future no-build queuing analysis identified the following roadways as having intersection queue lengths that will exceed storage in 2035 (without modifications to the facilities):

- US 20 at OR 229 – east- and southbound approaches
- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at Bay Boulevard – westbound approach
- Business Loop 20 at A Street – north-, east- and westbound approaches

Freight Truck Operations

Toledo has a higher rate of truck traffic than other comparable cities due to the Georgia-Pacific site. Trucks take longer to stop and start at stop signs/traffic signals which can increase congestion; the additional room needed for the vehicle and slower travel speeds, also factor into congestion. Trucks also have an impact on road surfaces and require wider turning radii at intersections. Business Loop 20 northeast of Sturdevant Road, Sturdevant Road south of Business Loop 20, and Bay Boulevard had the highest percentages of truck traffic within the City; between 3 and 40 percent based on the road segment and direction.

Safety Conditions

The crashes recorded from 2006-2010 at the three safety study intersections (2, 3/4, and 5) show twelve crashes in the safety study area. Commonalities between the crashes recorded include:

- Turning movement and angle crashes, which may be due to the inability of drivers to find appropriate traffic gaps from the minor (stop controlled) roads onto busier roadways.
- Majority of crashes occur during the late afternoon/evening, when traffic volumes are generally highest.
- Crashes associated with behavioral contributing factors, such as “too fast for conditions,” “distracted driving,” and “careless driving.”
- Crashes where an older driver is at fault.

These types of commonalities can be used to help establish how future changes at these locations may result in increases or decreases to crashes on the network.

The crash analysis based on the data does not indicate the magnitude of the community concern with the safety of the Western Junction. Stakeholder interviews and conversations with the community and PAC indicate that there are daily “near misses” at this intersection and it is important for the TSP to recommend safety upgrades at this location.

Main Street Parking

The parking analysis on Main Street showed that on a typical summer weekday, there is adequate parking for the demand. On- and off-street parking spaces on Main Street were approximately 23-39 percent full between 12:00 pm and 6:00 pm on a weekday. Stakeholder feedback indicated that special events in the City can create parking shortages, especially when those events close Main Street to vehicles.

Existing Transportation System

This section documents the existing roadway, bicycle, pedestrian, transit, air, rail, water, and pipeline conditions within the City, as well as system needs and deficiencies.

Roadways

Steep hills and narrow ridges in Toledo have led to a narrow and steep transportation network, especially in the hills east of downtown and the residential areas between US 20 and Business Loop 20. These narrow, winding roads have sight distance limitations from vertical and horizontal curves with vegetation directly adjacent to the roads. All roads except for Business Loop 20 and US 20 are two-lane roads and very few have shoulders or sidewalks. In many cases, there is a steep slope on either side of the road and little room to expand or add shoulders.

Functional Classification

Roadways in Toledo are classified based on the expected and current usage. The classification categories include arterials, collectors, and local roads. Arterials are meant to accommodate the longer-distance trip and generally have high speeds with few local accesses. Collectors gather traffic from local roads, and some private accesses, and provide a connection between neighborhoods and the regional arterial system. Collectors balance the needs of local access with the need for mobility and carry shorter trips. Local roads provide direct access to individual properties, have lower speeds, and carry less traffic.

The classification of each roadway is important to help determine appropriate design standards, pedestrian and bicycle facilities, and access to adjacent properties. Arterial and collector roads in the project study area are described below and are the primary focus of the TSP. Roadway classifications are from the City's GIS roadway layers. Figure 1 includes a map of these designations. Additionally, the *Toledo Public Facilities Plan* (1989) cited in the previous unadopted Toledo TSP and an ODOT map of functional classification designations from Lincoln County in 2009 were analyzed. There are a number of discrepancies as noted in the section below, along with the recommendation for a classification based on the current traffic levels and land uses served. Table 2 shows the differences between the three data sources, as well as the Project Team's recommendation.

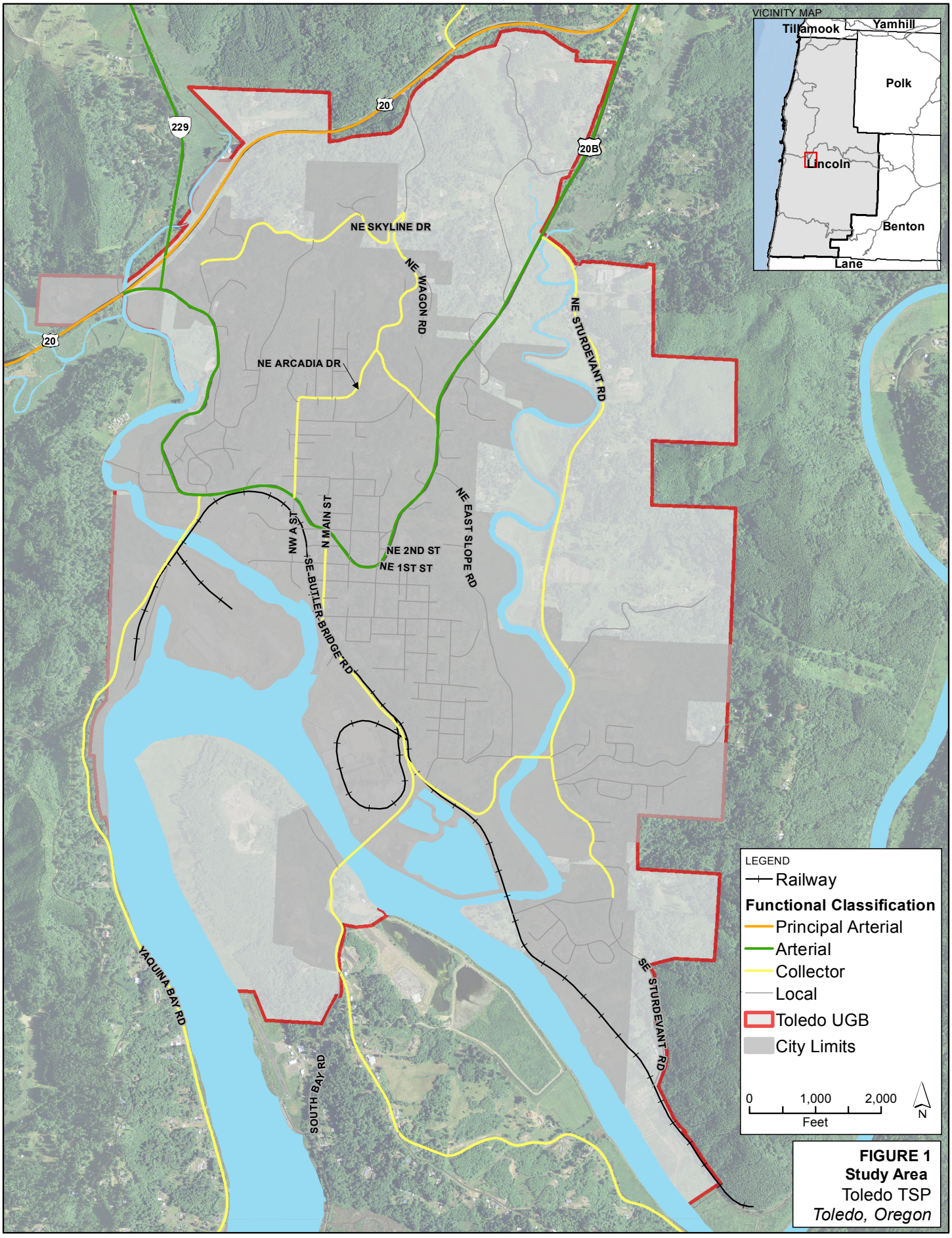


FIGURE 1
Study Area
Toledo TSP
Toledo, Oregon

Arterial Roads

The primary function of an arterial roadway is to provide mobility for through trips. Arterials typically carry higher traffic volumes and allow higher travel speeds while providing limited access to adjacent properties. Within the study area, US 20 (Corvallis-Newport Highway) is a principal arterial and Business Loop 20 and Business Loop 20 Spur are minor arterials. The City classifications are consistent with the State and Toledo Public Facilities designations, with the exception of OR 229 which the City designates as an arterial but the State and Public Facilities map identify as a collector. The Project Team recommends identifying OR 229 as a collector to be consistent with the State, as OR 229 is mostly outside of the project study area and under ODOT's jurisdiction.

Truck Route Sign on US 20

US 20 is primarily a two-lane highway and an important link between the Interstate 5 corridor in the Willamette Valley and US 101 along the Oregon Coast including Newport. This segment of roadway is designated a Statewide Highway under the National Highway System and is owned and operated by ODOT. This section is also a state-designated truck route and a safety corridor. The speed limit on US 20 is 45 miles per hour (mph) throughout the project study area. East of the western junction of Business Loop 20 and US 20 there is an eastbound passing lane for a total of three travel lanes. East of Arcadia Drive, US 20 has two travel lanes in each direction, for a total of four travel lanes.

Business Loop 20 is a minor arterial throughout Toledo. Business Loop 20 is 3.5 miles long, of which 2.6 miles are within the Toledo UGB. It is a two-lane road and makes a loop east-west, connecting to US 20 at both ends; though the east end is outside of the project study area. Business Loop 20 was owned by ODOT until 2004 when it was transferred to the City. US 20 followed this alignment until 1971 when ODOT constructed the existing alignment north of Toledo.[1] The speed limit on Business Loop 20 is 35 mph between the western junction of US 20 and Dundon Road. From Dundon Road to Ridge Drive it is 25 mph, and east of Ridge Drive the speed limit returns to 35 mph. Approximately 400 feet further east, the speed limit is 50 mph until the eastern junction of US 20. Business Loop 20 has two through travel lanes throughout the City, with turn lanes at six intersections through Toledo.


Signal at Business Loop 20 and A Street

Business Loop 20 Spur is a small section of minor arterial south of US 20 connecting Business Loop 20 and OR 229 in the northwest section of the City. The spur helps facilitate travel between Corvallis or points east along US 20 and downtown Toledo along Business Loop 20. There is no posted speed on this section, but the Project Team assumed 35 mph consistent with the speed limit on Business Loop 20. City GIS data identifies this as a collector, though ODOT considers this segment an arterial. The Project Team recommendation is to be consistent with ODOT's classification, as Business Loop 20 Spur is owned by ODOT.

Collector Roads

Collector roads gather traffic from local streets and provide connections to arterial roadways and the

[1] Oregon Department of Transportation & Geometronics. 2007. History of State Highways in Oregon. Salem, OR. p. 33-3. ftp://ftp.odot.state.or.us/Region1_Projects/HighwayHistory/HSHO.pdf

regional transportation system. Generally, collectors operate with moderate speeds and provide more local access than arterials. The City GIS data, the State, and Toledo Public Facilities information have a number of differences, identified by the individual streets below. Within the study area, several roadways are universally identified as urban collectors, including Sturdevant Road, Main Street/Butler Bridge Road/East Slope Road/10th Street, and Bay Boulevard. Minor collectors are Arcadia Drive/11th Street/A Street, Skyline Drive/Lincoln Way, and Burgess Road. All collector roads are two lanes within the study area.

Sturdevant Road is a north-south urban collector between Business Loop 20 and Emerald Court in the southwest portion of the City, east of Toledo's population center along Olalla Slough. The road is owned and maintained by Lincoln County throughout its entire length and is located mostly outside the City limits, but within the Toledo UGB. From the north, Sturdevant Road is a 45 mph roadway until it enters the City limits, where the speed limit is 35 mph. From just north of 10th Street to the City limits, the speed limit is 30 mph. There are two 20 mph school zones near Toledo Junior/Senior High School and Toledo Elementary School. All previous functional classification maps agree that Sturdevant Road is a collector up to Emerald Court.

A Street/1st Street/Butler Bridge Road is identified in the *Toledo Public Facilities Plan* (1989) as an urban collector north-south from Business Loop 20 to the southern UGB limits south of the Yaquina River. For much of the road's length, it travels parallel to the railroad tracks, and serves as a truck route with access from Business Loop 20 to Georgia-Pacific. From the north, A Street runs south from Business Loop 20 until the junction with 1st Street, where the collector turns east and then south onto Butler Bridge Road; the speed limit is 25 mph in this area. At Catherine Street, the speed limit increases to 35 mph for the remainder of the length within the UGB. There is a 20 mph speed zone section along Butler Bridge Road from Graham to Catherine Streets. Butler Bridge spans the river south towards Toledo State Airport. From Business Loop 20 to Butler Bridge, the streets are City-owned and maintained. At the south end of Butler Bridge, the road name changes from Butler Bridge Road to South Bay Road, where it reverts to County jurisdiction. The road continues as a rural major collector outside of the UGB.

Neither the ODOT map nor the City GIS data identify this roadway as a collector; however, the Project Team recommends classifying these streets as collectors in the TSP as they are major thoroughfares and part of the truck route. These road segments provide a connection to Business Loop 20 and US 20 and currently function as a collector.

East Slope Road/SE 10th Street is an urban collector connecting Butler Bridge Road to Sturdevant Road in southeast Toledo. The road parallels the railroad track for some of its length and crosses the Ollala Slough. The City-maintained road has a 25 mph posted speed limit for its entire length and runs primarily east-west.

Bay Boulevard is an urban collector between Business Loop 20 to the southwestern City limits, north and west of the Yaquina River. The road is owned and maintained by Lincoln County and provides direct access to the Port of Toledo boatyard, crossing over Depot Slough. From the northern limit, the speed limit is 35 mph to just south of Altree Lane, where it increases to 45 mph for the rest of its length within the City. The road continues as a rural major collector outside of the UGB as Yaquina Bay Road and connects to Newport.

OR 229 is an urban collector travelling north from US 20 that connects Toledo with the City of Siletz. It is maintained by ODOT and has a speed limit of 55 mph north of US 20. Outside of the UGB, the road continues as a rural major collector. It is classified as a District Highway under the *Oregon Highway Plan*. As mentioned above, the City GIS data identifies OR 229 from Business Loop 20 to Siletz as an arterial roadway, while the *Toledo Public Facilities Plan* and ODOT identify OR 229 as a collector. The Project Team recommends consistency with ODOT's functional classification and recommends that OR 229 be classified as a collector.

Arcadia Drive/11th Street/A Street is a minor collector that runs north-south from US 20 to Business Loop 20 and includes a signalized intersection at Business Loop 20. Other than the eastern and western junctions of US 20 and Business Loop 20, Arcadia Drive is the only other access into Toledo from US 20. It is City-owned south of Skyline Drive and the north section is owned by the County. The speed limit is 25 mph on A Street heading north, transitioning to 35 mph. There is a 20 mph speed zone near Arcadia Elementary School. All three data sources agree that Arcadia Drive within the City limits is a collector; however, the ODOT functional classification map includes Arcadia Drive as a collector from the northern City limits to US 20. The Project Team recommends

Arcadia Drive near US 20

extending the collector classification north to US 20 to be consistent with ODOT and recognizing that the section outside of the City limits but inside the UGB functions as a collector, bringing traffic from US 20 into central Toledo.

Skyline Drive/Lincoln Way is a minor collector that travels primarily east-west from Arcadia Drive to Business Loop 20. Lincoln Way and Skyline Drive are owned by the City. The speed limit on Skyline Drive and Lincoln Way is 35 mph. While all documents show that Skyline Drive is a collector, the City GIS data does not include Lincoln Way as a collector, while the ODOT and Toledo Public Facilities data does. The Project Team recommends including Lincoln Way, as it is the only way to connect from Business Loop 20 to Skyline Drive, as a collector.

Burgess Road is an east-west minor collector between Business Loop 20 and Arcadia Drive. It is City-owned, and has a speed limit of 20 mph throughout its entire length.

Main Street is the north-south street through downtown Toledo. It connects Business Loop 20 in the north to Butler Bridge Road in the south. Many of Toledo's services such as City Hall, banks, publicly-owned parking lots, and commercial and retail businesses are located in this five block stretch. The speed limit is 25 mph. On ODOT and City data maps, Main Street is a collector; however, the Toledo Public Facilities map identifies Main Street as a local road. The Project Team recommends that Main Street is consistently labeled as a collector road, recognizing the importance of Main Street for connecting downtown to Business Loop 20 and Butler Bridge Road.

TABLE 2
Functional Classification Discrepancies and Project Team Recommendation

Road	City of Toledo GIS Data	Toledo Public Facilities Map (1989)	ODOT Functional Classification map (2011)	Project Team Recommendation
US 20	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial
Business Loop 20	Arterial	Minor Arterial	Minor Arterial	Arterial
Business Loop 20 Spur	Collector	Local	Principal Arterial	Arterial
Sturdevant Road	Collector	Major Collector	Major Collector	Collector
A Street (north of Business Loop 20)	Collector	Minor Collector	Minor Collector	Collector
A Street (south of Business Loop 20)/1st Street/ Butler Bridge Road	Local	Major Collector	Local	Collector
East Slope Road/SE 10th Street	Collector	Major Collector	Major Collector	Collector
Bay Boulevard	Collector	Major Collector	Major Collector	Collector
OR 229	Arterial	Major Collector	Major Collector	Collector
Arcadia Drive (north of Skyline Drive to UGB)	Local	Local	Minor Collector	Collector
Arcadia Drive (south of Skyline Drive)/11th Street/ A Street	Collector	Minor Collector	Minor Collector	Collector
Skyline Drive	Collector	Minor Collector	Minor Collector	Collector
Lincoln Way	Local	Minor Collector	Minor Collector	Collector
Burgess Road	Collector	Minor Collector	Minor collector	Collector
Main Street	Collector	Local	Major Collector	Collector

Source: City GIS data were obtained from the City of Toledo in July 2012
Public Facilities Functional classifications were obtained from the 1995 *Toledo TSP*, which lists the source as the *Toledo Public Facilities Plan* 1989
ODOT Functional classifications were obtained from the ODOT website and is labeled Lincoln County, 2009.

Study Area Intersections

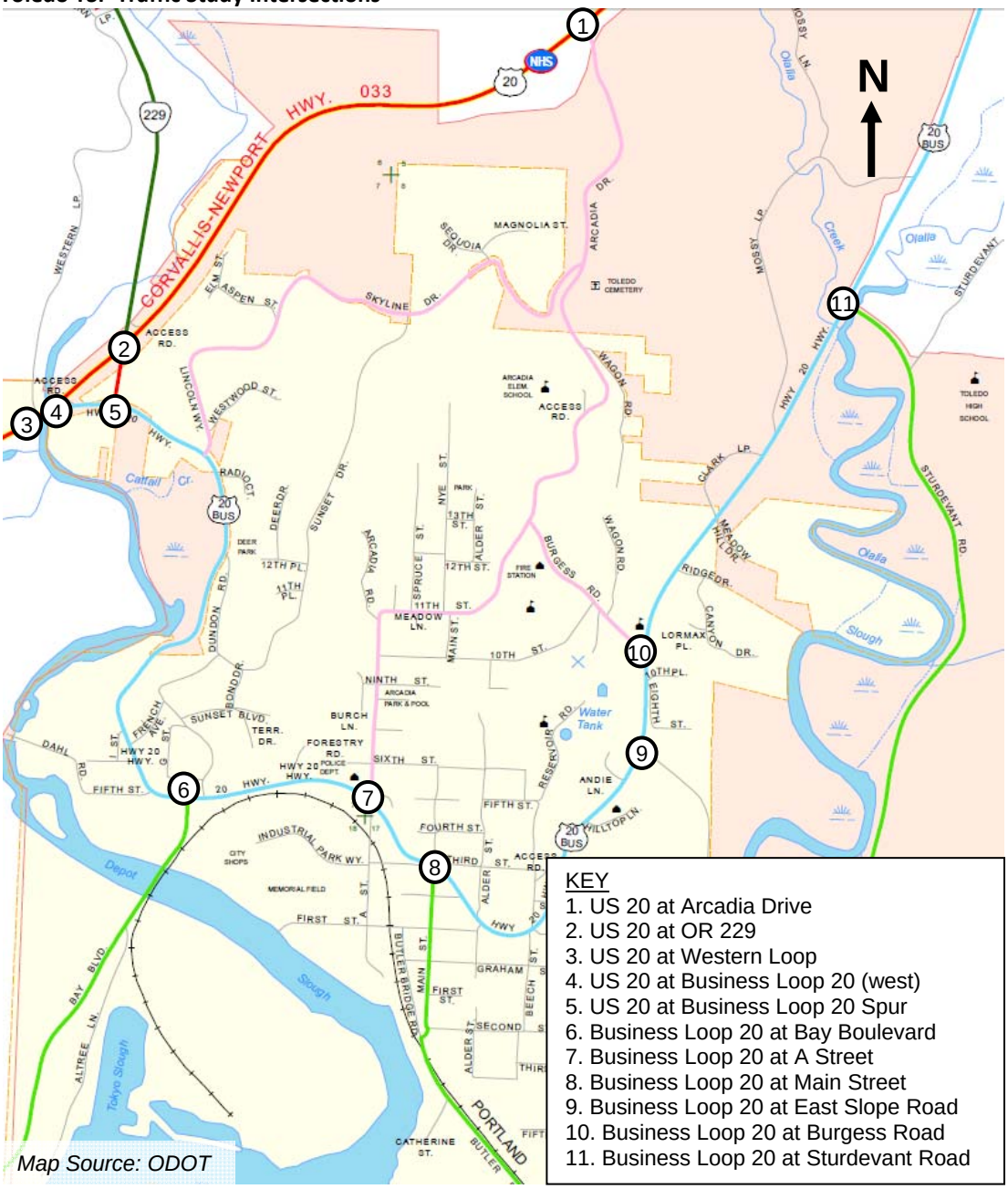
The Project Team analyzed eleven traffic study intersections for the TSP. These intersections include roadways that are owned by ODOT and the City. A key focus of the plan is the western junction of US 20 and Business Loop 20. Four study intersections make up this junction and they were analyzed for operations as well as safety**.** Figure 2 shows the extents of the traffic study area and the location of all study intersections.

TSP study area intersections are:

1. US 20 at Arcadia Drive
2. US 20 at OR 229
3. US 20 at Western Loop
4. US 20 at Business Loop 20 (west)
5. US 20 at Business Loop 20 Spur
6. Business Loop 20 at Bay Boulevard
7. Business Loop 20 at A Street
8. Business Loop 20 at Main Street
9. Business Loop 20 at East Slope Road
10. Business Loop 20 at Burgess Road
11. Business Loop 20 at Sturdevant Road

FIGURE 2

Toledo TSP Traffic Study Intersections



KEY
1. US 20 at Arcadia Drive
2. US 20 at OR 229
3. US 20 at Western Loop
4. US 20 at Business Loop 20 (west)
5. US 20 at Business Loop 20 Spur
6. Business Loop 20 at Bay Boulevard
7. Business Loop 20 at A Street
8. Business Loop 20 at Main Street
9. Business Loop 20 at East Slope Road
10. Business Loop 20 at Burgess Road
11. Business Loop 20 at Sturdevant Road

Map Source: ODOT

Freight Routes

The previous unadopted 1995 Toledo TSP included a map of freight routes within the City, which included the arterial and collector roads, as well as the routes signed as City-designated truck routes. Business Loop 20 is classified as a freight route for its entire length, as is Sturdevant Road up to Emerald Court. A Street/1st Street/Butler Bridge Road is designated a freight route from Business Loop 20 to the northern landing of Butler Bridge, while East Slope Road/10th Street is also a freight route. Freight routes are shown on Figure 3. The traffic operations section below describes the percentages of trucks on these roadways and the effects of freight traffic on pavement condition and traffic operations.

Stakeholders and City staff provided input on the freight routes within the City. Freight trucks often deviate from the freight route and become stuck on local City streets, especially turning from steep side streets such as 1st and Graham streets onto Main Street. Trucks are unable to make the sharp turn from the side streets onto Main Street and the movement is complicated by the steep grade. In the past, trucks have gotten stuck navigating the turn and struck light posts or building awnings; they have also high-centered (where the center of the truck is caught on the slope and the wheels are unable to move the vehicle) on roads with steep grades. Stakeholders mentioned that truck drivers are likely to follow GPS instead of the posted freight routes and the GPS directions do not always consider road width or grade when creating driving directions. The drivers who follow GPS and take inappropriate routes are usually drivers who are not familiar with Toledo, are visiting for the first time, or visit only sporadically. Drivers who are familiar with the City know and use the truck routes.

One stakeholder with a business on Alder Street reported that trucks inappropriately use Graham and Alder Streets two or three times a week and suggested additional signage or pavement markings to indicate the correct route for trucks. Stakeholders suggested improving signage along freight routes to minimize wrong turns. To further reduce confusion, one local freight stakeholder recommended directing all trucks to Sturdevant Road via the eastern junction to access the Georgia-Pacific and other industrial sites, and no longer allowing trucks to use the western junction except to access downtown businesses.

Another stakeholder who owns a business on Main Street indicated that the newly constructed intersection of Main Street, Butler Bridge Road, and SW 2nd Street is hard for trucks to navigate due to reduction in roadway width and additional curbs at the pedestrian crossings. Some large trucks making deliveries to businesses along Main Street have difficulty finding a suitable route to Butler Bridge Road or the identified truck route.

Sturdevant Road provides the only access to the industrial site owned by the Confederated Tribes of the Siletz Indians. This portion of Sturdevant Road south of 10th Street is narrow, curvy, lacks shoulders, and serves an area that is predominantly residential. If the industrial site develops with a use that generates significant truck traffic, improvements to this portion of Sturdevant Road may be needed to adequately serve freight. In addition, one stakeholder suggested that the Freight Route designation on Sturdevant Road be extended south to the site entrance.

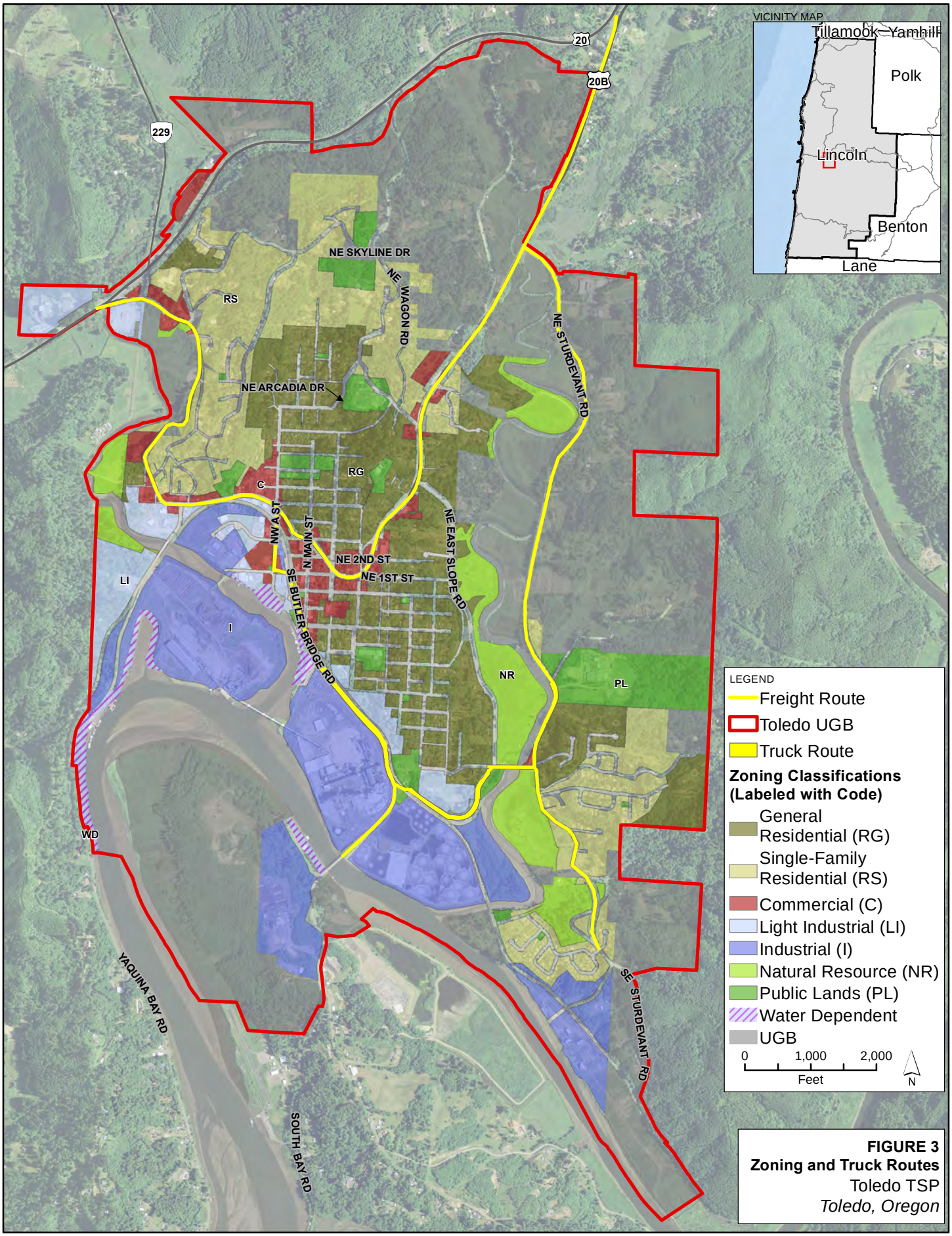


FIGURE 3
Zoning and Truck Routes
Toledo TSP
Toledo, Oregon

Land Use

This section provides a general overview of land uses within the City of Toledo's planning area to inform the TSP in identifying which land uses affect existing and future transportation conditions. The descriptions below are based on existing zoning designations shown on Figure 3.

Downtown Toledo, centered on Main Street between Butler Bridge Road and Business Loop 20, is primarily zoned for commercial use. Commercial parcels are also located along Business Loop 20 within the study area and along A Street (between NW 1st and 9th Streets and US 20 in northwest Toledo). Outside of the downtown core, the General Residential (RG) zone is prevalent throughout the Toledo street grid, especially to the north and southeast of Business Loop 20. There are also scattered RG zones east of Sturdevant Road and west of downtown near Business Loop 20. There are two general Single-Family Residential zones along curvilinear streets and cul-de-sacs near Sunset Drive, Arcadia Drive, Skyline Drive, and Sturdevant Road. This zone allows lower residential density than the RG zone and greater minimum lot sizes. Recreational open space, interspersed in these residential areas, as well as school property and the Library, are zoned as Public Land. Wetland areas along Olalla Slough and Depot Slough north of industrial areas are zoned as Natural Resource lands.

The majority of City land immediately adjacent to the Yaquina River and Depot Slough between the western City boundary and Olalla Slough are zoned either Industrial or Light Industrial. This includes Georgia-Pacific and the Port of Toledo, as well as the majority of City land south of Yaquina River. In addition, the Lumber Dry Kiln operated by the Confederated Tribes of the Siletz Indians further east of Olalla Slough is zoned Industrial. The railroad generally serves as the boundary between the heavy industrial areas and the rest of Toledo; however, there are some light industrial properties located north of the tracks and some isolated parcels in northwest Toledo. Waterfront properties that are suitable for development along Depot Slough, Tokyo Slough, and Yaquina River are zoned for Light Industrial or Water-Dependent Industrial uses.

Land uses are important considerations for the TSP, as they attract unique types of trips and vehicles. The General and Single-Family Residential areas carry fewer heavy vehicles and less through traffic than the road network near Industrial and Commercial areas. The Industrial areas, specifically Georgia-Pacific, generate freight traffic throughout daily operations and employee traffic during shift changes in the morning and afternoon. Areas where Residential and Industrial or Commercial lands are adjacent to each other could create conflicts between transportation system users and could create concerns with the mix and type of traffic on roadways that serve both uses.

Traffic Generators

Traffic generators are important to consider in the TSP as they impact the transportation system in the City. Different traffic generators attract different types of vehicles and experience demand at various times of day. In addition to the Georgia-Pacific site and the Port of Toledo, major traffic generators in the City include the Library, Police Department, Fire Station, JC Thriftway supermarket, Toledo Elementary and Junior/Senior High Schools, Lincoln County School District's maintenance facility and bus barn (operated by the Mid-Columbia Bus Company), and the Arts District near downtown. These traffic generators are all situated along or near arterials or collectors, including Business Loop 20, A Street, and Burgess Road. The Toledo State Airport and the Western Cascade Industries mill are outside of the UGB but also generate some general and freight traffic that passes through Toledo along South Bay Road. Additionally, there are at least two trucking companies in the City limits: Henarie Trucking and Mitchell Trucking that generate traffic and increase the amount of trucks on roadways in the City.

The Georgia-Pacific site is the largest traffic generator in the City and attracts both freight and employee traffic. Employees arrive and leave the mill sites at specific times related to their shifts and the mill schedule has employees at the mill 24-hours a day. Georgia-Pacific has seven entry points, two of which have employee parking. The other entries are reserved for freight traffic either entering or leaving the site. The day shift starts around 6:00 or 6:30 am and ends around 3:30 pm and is the highest staffed shift at the mill. There is also a swing and a graveyard shift that add employee traffic on Butler Bridge Road/1st Street/A Street and Business Loop 20. Georgia-Pacific also attracts freight traffic throughout the day with trucks delivering timber and other trucks hauling finished cardboard and other wood products out of town. The Port of Toledo attracts similar, if less, traffic than Georgia-Pacific, with a mix of employee and freight traffic along Bay Boulevard. The Port boatyard facility generates 50 vehicles per day currently and at full build-out is estimated to generate up to 200 per day according to the *Port Waterfront Development Strategic Business Plan*. Both of these traffic generators are located on collector streets and City-designated truck routes.

Services such as the Library, banks, shops, the Skate Park, the Arcadia Park and Pool, and City Hall attract moderate amounts of traffic throughout the day as community members access these services. Traffic patterns near these generators are more spread out than employee traffic generated by Georgia-Pacific, but concentrated during hours of operation. The Police and Fire Department operate 24-hours a day and generate moderate traffic. Trips to and from these services are mainly officers and fire trucks responding to emergencies and staff arriving and departing. These services are along collector or arterial streets, providing direct and convenient access to the rest of the transportation network.

The JC Thriftway supermarket also attracts trips throughout the day as employees come to work and citizens shop for groceries. Trips to the supermarket are often combined with other trips like the trip home from work, but some trips will be specifically for the grocery store. Busy times at the supermarket are likely to be afternoons and early evenings as shoppers stop by on their way to or from other destinations. Located along Business Loop 20, providing easy access to and from the regional network to the residential areas of the City.

Figure 4 shows traffic generators in the City.

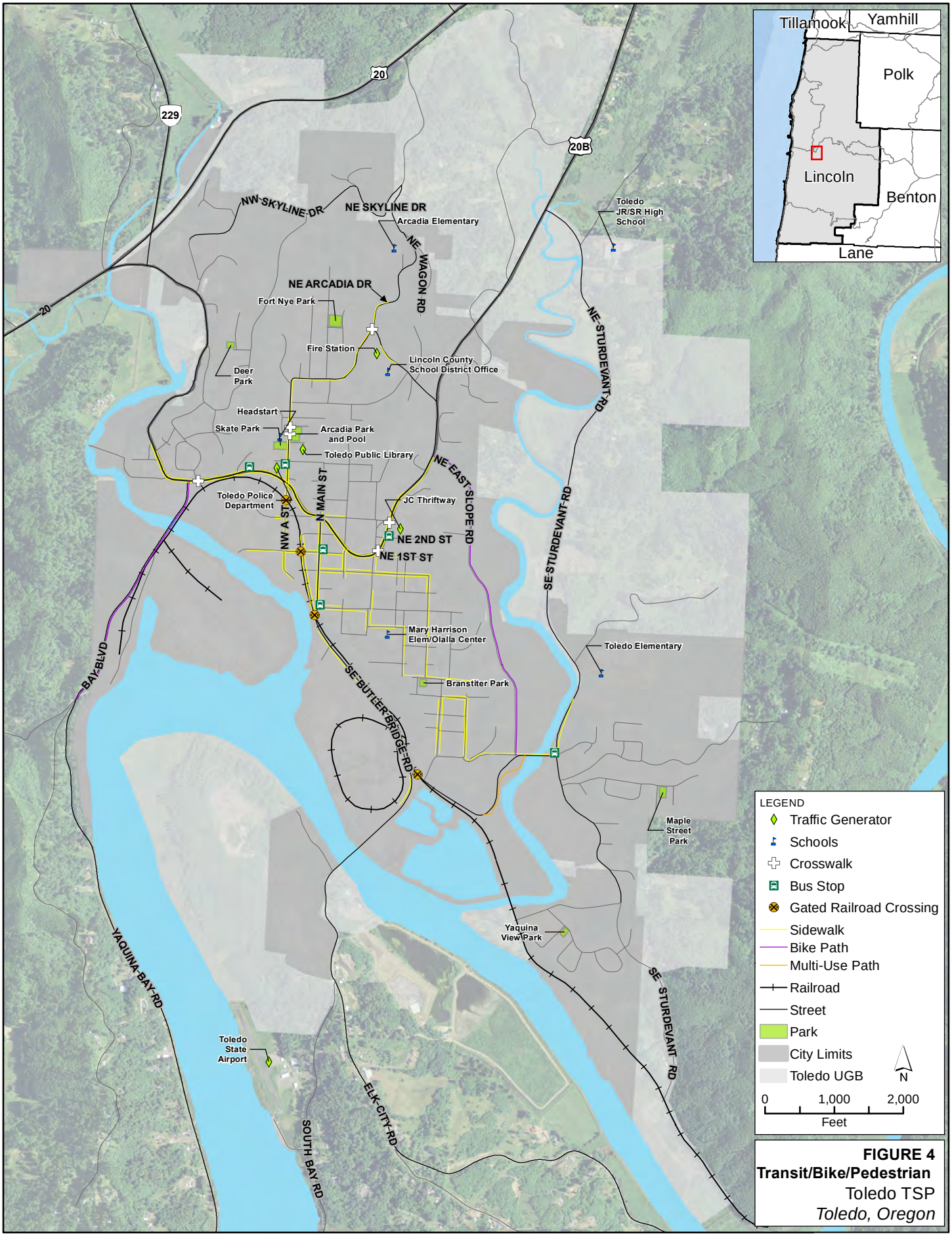


FIGURE 4
Transit/Bike/Pedestrian
Toledo TSP
Toledo, Oregon

Bicycle and Pedestrian Facilities

Non-motorized facilities are sidewalks, bike lanes, and multi-use paths that serve pedestrians, bicyclists, skateboarders, and mobility devices. There are two signed bike routes on Yaquina Bay Road and East Slope Road north of 10th Street and two multi-use paths within the study area. There are sidewalks along some roads in Toledo, mostly near commercial business areas, parks, schools, and public service buildings including City Hall, the Fire Station, Post Office, and Library. The remaining pedestrian facilities provide limited access to public schools and the Georgia-Pacific site. Sidewalks are generally 5 to 6 feet wide. Table 3 provides a partial list of facilities on citywide arterials and collectors. The previously unadopted 1995 TSP included roadway standards for collectors and arterials and recommended including bicycle and pedestrian facilities such as sidewalks and bike lanes on all collectors and arterials.

The City of Toledo Public Infrastructure Design Standards Manual requires sidewalks and bikeways on new arterial and collector roads, as well as sidewalks on local streets that serve commercial and multifamily residential developments. The City standards also encourage sidewalk retrofitting during rehabilitation or reconstruction projects. This requirement may be waived for low-traffic streets where building new sidewalk is infeasible due to right-of-way, grade, or other constraints. The City manual specifies that bikeways should be separated from other travel modes where possible. In addition, bike lanes must be a minimum of 5 feet wide, while off-street paths must be a minimum of 10 feet wide.

TABLE 3
Sidewalk Facilities on Arterials and Collectors
Toledo, Oregon

Road	From	To	Sidewalk
Business Loop 20	French Avenue	Hilltop Lane	Both sides
Business Loop 20	Hilltop Lane	East Slope Road	South side only
Butler Bridge Road	Main Street	East Slope Road	West side only
Butler Bridge Road	NW 1st Street	Main Street	Both sides
NW 1st Street	A Street	Main Street	Both sides
A Street	NW 9th Street	NW 1st Street	Both sides
A Street	NW 11th Street	NW 9th Street	East side only
NW 11th Street	Arcadia Drive	A Street	South side only
Arcadia Drive	North of Burgess Road	NW 11th Street	West side only
Burgess Road	East of Arcadia Drive	West of NW 10th Street	South side only
SE 10th Street	East Slope Road	Sturdevant Road	North side only
Sturdevant Road	Chedester Road	NW 10th Street/Fircrest Drive	East side only

Source: Project Team site visit July 11-12, 2012

Sidewalks on Business Loop 20 near A Street

Multiple stakeholders indicated that a multi-use path or a sidewalk is needed along Sturdevant Road, especially near the Junior/Senior High and Elementary schools. In addition, stakeholders suggested that east-west access through Olalla Slough would provide more direct access between the schools and downtown. Students, residents in the area, and the track teams currently use the narrow shoulder on Sturdevant Road to walk or run. Sturdevant Road carries a lot of truck traffic at high speeds, creating safety concerns for pedestrians who do not have sidewalks or designated path. Stakeholders suggested that this path could be integrated with a nature boardwalk along Ollala Slough with interpretive, educational signage and provided multiple access points to downtown and Sturdevant Road. Stakeholders were also concerned with the pedestrian crossing on NW 1st Street and Butler Bridge Road, which is the most direct route between downtown Toledo and the Post Office, located on NW 1st Street. The pedestrian railroad crossing is on the opposite side of the road from the majority of the pedestrian traffic and there is no stop sign on Butler Bridge Road near NW 1st Street to slow vehicle traffic. Another stakeholder suggested posting pedestrian advisory signs warning drivers that pedestrians are likely to be present. The sidewalk on one side does not create a comfortable place to walk, though many pedestrians use this route between the Post Office and downtown.

Stakeholders also mentioned the sections of Burgess Road and Arcadia Drive without sidewalks and the sidewalk gaps on Business Loop 20, heading east and west from downtown, are problematic. Stakeholders noted that the sidewalks on Business Loop 20 near downtown are a nice place to walk, but sidewalks do not connect to US 20 junction, where there are some services and transit stops. Some sections of these roads lack even shoulders, requiring pedestrians to walk in the road (for example, Business Loop 20 north of I Street). This could create a safety hazard as most of these roads are narrow and winding, creating sight distance limitations for drivers. Several stakeholders suggested building sidewalks and bicycle lanes in this stretch, or providing an alternate route for cyclists. Another stakeholder-identified sidewalk gap is at SE 3rd and Douglas Streets, the gap requires pedestrians to cross at Douglas Street. Multiple stakeholders acknowledged that Toledo is very steep making it difficult for pedestrians, especially older pedestrians.

East Slope Road between Business Loop 20 and SE 10th Street is a signed bike route that includes bicycle lanes. South and west of SE 10th Street, there is a short multi-use path along the east side of East Slope Road through East Slope Park that dead-ends near the Portland and Western Railroad tracks. Stakeholders recommended extending this path west to connect to the sidewalk on Butler Bridge Road and the Georgia-Pacific site.

A potential multi-use path along the west side of Sturdevant Road was proposed in the previous unadopted TSP to facilitate access between Toledo Junior/Senior High School and Toledo Elementary School. According to comments on the project website and two stakeholder interviews, a multi-use path in this section would benefit students traveling to and from the schools and those who live in the area. In addition to this proposed multi-use trail, the Port of Toledo has developed and constructed a Waterfront Path which includes a paved multi-use trail along Depot Slough at the Port. The Port has also been working to increase connectivity for pedestrians and cyclists between downtown Toledo and the waterfront. Bay Boulevard is also signed as a bicycle route, but the steep terrain, narrow roadway, and lack of bicycle lanes do not provide a protected area for cyclists. Further west of the City limits, Yaquina Bay Road does include bicycle lanes.

Stakeholders providing emergency services suggested that a bike route network from the eastern part of town into downtown could address bicycle needs in the City. Another stakeholder said that Bay Boulevard/Yaquina Bay Road is a good cycling route, though the hill close to town is a large barrier. Previously, bicyclists used the Port access road to avoid the hill, though the activities at the Port are incompatible with a bike route due to the high

amount of truck traffic. Stakeholders suggested that there is a need for expanded paved shoulders to accommodate bicyclists or a pedestrian path along the rail line between Bay Boulevard and Main Street, as well as more signage directing bicyclists from Bay Boulevard to downtown. Lincoln County has previously submitted a grant application to construct a trail on an abandoned rail bed to avoid the hill and provide separation between cyclists and motorists. The path would cross Depot Slough and connect downtown Toledo to Bay Boulevard at the west edge of the City; however, the County was unable to obtain grant funding for this project.

Several other bicycle and pedestrian needs were identified by stakeholders. One community member suggested an intercity multi-use trail along US 20 to connect to Newport and Corvallis. Another stakeholder recommended improving pedestrian signage in downtown and designating bicycle boulevards with marked sharrows in the pavement to assist in wayfinding and encourage drivers and cyclists to share the road.

Figure 4 shows the sidewalk and bicycle facilities within the study area.

Transit Routes

The Lincoln County Transit agency provides fixed-route bus service between the cities of Newport and Siletz via Toledo. The bus runs six roundtrips on the route Monday through Saturday, with no service on Sundays, Thanksgiving, or Christmas. The route travels between Siletz and Newport traveling on Business Loop 20, Sturdevant Street, Main Street, and others in the downtown core.

According to Lincoln County Transit, the following six stops serve the City on the East County route (from east to west):

- **US 20 at East Exit** Business Loop 20 at US 20 (East Junction) *
- **Ollala Store** SE 10th Street at Sturdevant Road
- **Toledo JC Thriftway** Business Loop 20 at NE 2nd Street
- **SE 2nd and Main Street (Westbound Only)**
- **NE 1st and Main Street**
- **Food Fair** Business Loop 20 at Forestry Road

**This stop is just outside the Toledo UGB and is served on-call or as needed.*

In addition, Benton County runs the Coast to Valley Express intercity route, providing service between the cities of Corvallis and Newport via Toledo. There are four roundtrips daily, with one stop at the Toledo Park and Ride, located at Business Loop 20 and A Street. Figure 5 shows these routes through Toledo.

Toledo Park and Ride

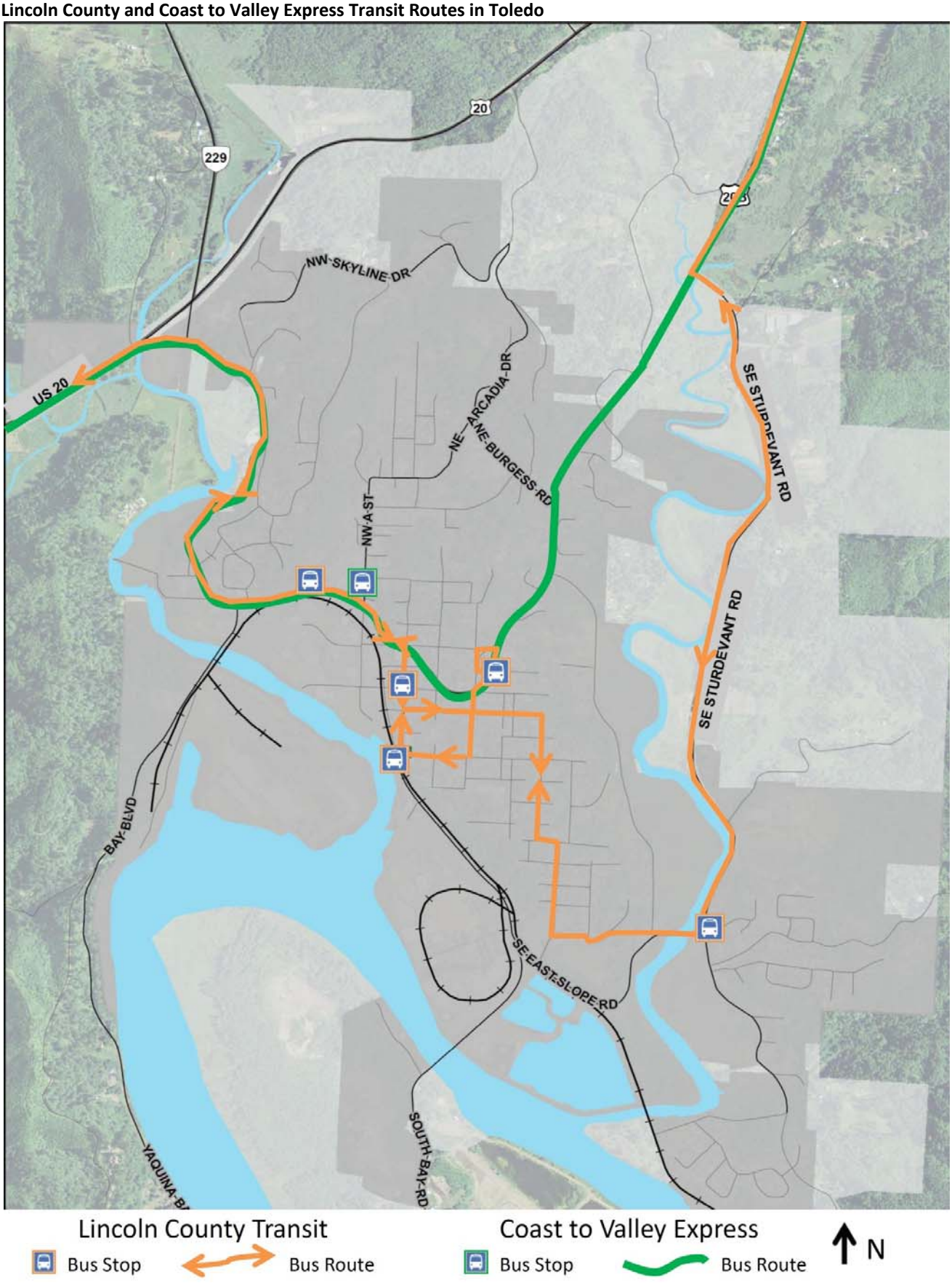
The Valley Retriever bus line also offers intercity service between the cities of Newport and Bend/Portland, with one daily trip to Bend and one to Portland in the morning and two trips to Newport in the afternoon. The Toledo stop is located at the Dairy Queen on Business Loop 20, at US 20. Few people in Toledo ride the bus, but it is unclear if it is due to lack of demand or if the bus services are not convenient, either the time of day or in route or destinations.

Stakeholders would like to see improved frequency and expanded transit service hours to and from Newport, as well as a local circulator or shuttle to better serve trips within the

City and provide connections to the regional bus lines. Other suggestions for improved transit included initiating a water taxi or ferry between Toledo and Newport to relieve traffic on US 20 and providing passenger service by rail to the Amtrak station in Albany.

FIGURE 5

Lincoln County and Coast to Valley Express Transit Routes in Toledo



Freight Rail

The Willamette and Pacific Railroad (WPRR) is a subsidiary of the PNWR and provides rail service to Toledo and Georgia-Pacific along the 74.7-mile single-track short line railroad. The original Oregon Pacific Railroad line was built in 1885 between Corvallis and Yaquina (an abandoned port west of Toledo) as part of the first segment of a planned major transcontinental route. When the transcontinental route was not built, Oregon Pacific sold the line to the Southern Pacific Railroad in 1907, and WPRR purchased the line in 1993. The railroad has not carried passenger service since the early 1900s.

The line travels along the north shore of Yaquina River from the UGB limits to Georgia-Pacific, where there is a direct track connection. At Depot Slough, the line is situated between the Port of Toledo and downtown. The *Waterfront Connectivity Plan* (2007) looked at ways to improve multimodal connectivity across the tracks and the City has completed one recommendation from the Plan with a new pedestrian crossing and intersection upgrade at Main Street/SW 2nd Street/Butler Bridge Road. At Depot Slough, the tracks curve around the Port, before crossing Depot Slough just south of Bay Boulevard. The line ends at the Yaquina River, adjacent to Tokyo Slough. There are four gated railroad crossings within City limits: A Street, NW 1st Street, Butler Bridge Road, and East Slope Road.

According to the 2010 Oregon Rail Study, there is one round trip freight train made up of 10-15 cars daily except for certain holidays between Toledo and Albany. This does not include operations within Georgia-Pacific, where there is 24-hour a day, 7-day a week activity servicing the mill which stops traffic at street crossings throughout the day. At the Butler Bridge Road crossing there is an average of 6-12 switching movements per day, with an average of 5-15 cars per train. Georgia-Pacific is currently the sole customer along the Toledo Branch, although the tracks also serve the Port of Toledo and a number of community members have expressed interest in expanding rail operations along the corridor.

Most stakeholders suggested that railroad crossings within the City were rough and hard to cross as a pedestrian or bicyclist. The City completed a new pedestrian rail crossing as part of its Main Street/SW 2nd Street/Butler Bridge Road project to connect the waterfront and downtown. Most other crossings are difficult for pedestrians and vehicles to cross. Stakeholders indicated multiple times that the crossing on NW 1st Street near Butler Bridge Road as an especially difficult crossing. The emergency service provider stakeholders indicated that there had been a few collisions associated with the railroad crossing, mostly bicycle crashes, but there was one car/train collision. As of November 2012, the City and ODOT's Rail Division are completing a safety audit of Toledo public rail crossings, the results of which will be incorporated in the final TSP.

The rail tracks along the PNWR line are in poor condition, especially at road crossings. Trains serving the Georgia-Pacific site have derailed several times in the vicinity of Butler Bridge Road and East Slope Road. Stakeholders are also concerned about the lack of crossing gates where the spur track crosses Butler Bridge Road. In addition, quiet zones were suggested for the crossings in downtown to reduce noise from train horns.

Rail Crossing at Butler Bridge Road and 1st Street

Airport

The Toledo State Airport is a state-owned Category V (remote access/emergency service) facility located outside of the Toledo UGB on South Bay Road along the Yaquina River south of the City. The airport provides access to surrounding recreational areas and is sometimes used by aircraft rerouted from Newport Municipal Airport due to foggy

conditions. The airport was built in 1957 on donated land and has one 1750-foot paved runway that is 40 feet wide. According to the Federal Aviation Administration, there were an average of 22 private aircraft takeoffs and landings per week in 2010, with 96 percent of traffic from transient general aviation (operations made by aircraft not based at the airport) and four percent from local general aviation (that originate and terminate at the airport). There are six aircraft based on the field: four single-engine airplanes and two ultralight craft. During emergencies, Coast Guard helicopters and Light Flight air ambulances use the airport to transport people and supplies. There is no room to expand the Airport for commercial or commuter service, nor plans to change the number of airplanes using the facility since there is little demand for passenger service. Given these circumstances, some stakeholders suggested closing the facility if it did not serve an important need.

Water and Pipeline Facilities

The Port of Toledo, founded in 1910, is the port authority that oversees the 443-square mile district. Located 15 miles upstream of the Pacific Ocean along the Yaquina River, the Port is accessed by a federally-authorized 10-foot deep, 200-foot wide navigational channel operated and maintained by the US Army Corps of Engineers. The hub of port operations is located west of A Street between the railroad tracks and Depot Slough. The Port provides support for the local maritime industry and other local businesses by providing moorages, ship repair facilities, and industrial space while also accommodating recreational uses (moorage, launch facilities, and a non-motorized paddle park).

The Port was used heavily by the timber industry for shipping, as well as a private boatyard that ceased operation in 2008; it has since been purchased by the port authority in 2011 and repurposed as a community boatyard to provide local maintenance repair service to commercial, charter, and recreational fleets. In 2010, the Port dredged Depot Slough to provide depth for river vessels. The newly constructed Transient Dock and Gangway was dedicated in 2012 to provide extra moorage space for short-term visitors by boat.

The 2006 *Facility Master Plan* prepared for the Port proposed an intermodal transshipping hub at Tokyo Slough to allow more efficient transfer of cargo between freight vessels, trains, and trucks. The Plan also suggested boosting the local economy and providing additional transportation options for local and regional shippers of materials and products. The current status of the intermodal hub is uncertain. Several community members were interested in additional feasibility studies on the hub and possible collaboration with the PNWR and the National Oceanic and Atmospheric Administration (NOAA) facility in Newport. The Port's *Strategic Business Plan* is currently being updated and includes a plan to expand the boatyard facility to accommodate ten boats up to 120 feet long, as well as build a new covered work building and mobile lift.

Allowing river barge access to Toledo was another important topic for local stakeholders, particularly for accessing the industrial site in southeast Toledo owned by the Confederated Tribes of the Siletz Indians. However, the height of Butler Bridge may restrict this access and the bridge is not likely to need to be replaced within the timeframe of the TSP.

Stakeholders suggested adding a new boat launch ramp at the Port close to downtown Toledo with enough room for vehicles with boat trailers. The boat ramp could help spur economic development in Toledo by providing an alternate facility for visitors who travel to a popular boat ramp at the Port of Newport. Currently, the closest boat ramp to Toledo is located at the Airport, but it is not convenient to US 20 or downtown.

Water and sewer pipelines are co-located with City streets throughout Toledo. The Georgia-Pacific Mill site has a pipeline between activity areas within the mill; additionally Georgia-Pacific uses a pipeline to discharge effluent in the Pacific Ocean west of Newport. Northwest Natural operates a high-pressure gas transmission line that follows OR 229 north south to US 20, where it heads east to Newport. There are currently no plans to expand these pipelines within the timeframe of the TSP. However, one community member was interested in pursuing future gas pipeline service to Toledo.

Existing Traffic Operations

Performance and Mobility Targets

For intersections under ODOT jurisdiction, there are ODOT specified mobility targets that vary according to functional classification, location, and role within the state highway system. The mobility targets are quantified in terms of the relative vehicle demand (volume) versus the capacity of an intersection, termed volume-to-capacity ratios (v/c). Intersection operations, measured by v/c ratios, are compared to the mobility targets to determine if they maintain or fail to meet their appropriate mobility. Acceptable v/c ratios are those less than the target standard that is outlined in the *Oregon Highway Plan* (OHP).

For intersections under City jurisdiction, there are no adopted mobility standards. Typically cities use a v/c standard as well as a level-of-service (LOS) standard. The LOS helps quantify the degree of comfort for drivers, through elements such as travel time, number of stops, amount of time spent stopped (delay), and impediments caused by other vehicles. Examining both measures is useful since the v/c will indicate if there is enough room at the intersection for all the vehicles while the LOS will denote whether those cars are moving through the intersection in a reasonable amount of time. The City of Toledo does not currently have an adopted TSP, and therefore does not have any traffic standards with which to measure congestion. The Project Team has analyzed similar Cities and made a recommendation of level-of-service appropriate for Toledo. Table 4 gives a breakdown of the LOS in reference to delay recommended for use by the City.

TABLE 4
Toledo TSP: Level-of-Service Criteria
Signalized and Stop-Controlled Intersections

	Average Vehicle Delay (seconds/vehicle)		
Level-of-Service	Signalized Intersections	Stop-Controlled Intersections	General Description
A	0-10	0-10	Few or no traffic delays – individual users are virtually unaffected by the presence of other vehicles
B	10-20	10-15	Short traffic delays – traffic flow is stable, but the presence of other users begins to be noticeable
C	20-35	16-25	Average traffic delays – traffic flow is stable, but other traffic begins to significantly affect individual users
D	35-55	26-35	Long traffic delays – traffic flow is dense but stable. Other users restrict individual driver maneuverability
E	55-80	36-50	Very long traffic delays – operations are at or near capacity levels and unstable. Freedom to maneuver is difficult
F	>80	>50	Extreme traffic delays – operates are at breakdown where demand exceeds capacity. Delays and queuing may cause severe congestion.

Source: 2010 Highway Capacity Manual

Cities of a similar size to Toledo were examined and based on those; a LOS D is proposed for all-way stop and signalized intersections. A LOS E is proposed for two-way stop controlled intersections. In all cases, a v/c ratio standard of 1.0 or lower is proposed, because it is not recommended to have a volume higher than the existing capacity.

The ODOT mobility targets and proposed City mobility standards as applicable for each intersection are shown in Table 5.

TABLE 5
Recommended Mobility Standards for the City of Toledo

ID	Intersection	Control Type	No-Build Recommended Mobility Target			
			v/c		LOS	
			Major [a]	Minor [b]	Major	Minor
1	US 20 at Arcadia Drive	Stop	0.70	0.75	N/A	E
2	US 20 at OR 229	Stop	0.80	0.90	N/A	N/A
3	US 20 at Western Loop	Stop	0.80	0.90	N/A	E
4	US 20 at Business Loop 20 (west)	Stop	0.80	0.90	N/A	E
5	Business Loop 20 Spur at Business Loop 20	Stop	0.80	0.95	N/A	E
6	Business Loop 20 at Bay Boulevard	Stop	1.0	1.0	E	E
7	Business Loop 20 at A Street	Signal	1.0		D	
8	Business Loop 20 at Main Street	Stop	1.0	1.0	E	E
9	Business Loop 20 at East Slope Road	Stop	1.0	1.0	E	E
10	Business Loop 20 at Burgess Road	Stop	1.0	1.0	E	E
11	Business Loop 20 at Sturdevant Road	Stop	1.0	1.0	E	E

[a] Indicates OHP Mobility Standard v/c ratio for uncontrolled roadway approach
[b] Indicates OHP Mobility Standard v/c ratio for stop controlled roadway approach

Existing Traffic Analysis Results

This section describes the results for the 2012 existing conditions traffic operational analysis. Results include the v/c ratio, LOS, and 95th percentile queue lengths for each of the 11 study intersections. Queue lengths are the measures of vehicle back-ups at intersections. Queues are measured against available storage, which includes turn lanes and/or the distance between intersections available for vehicles to line up as they wait to enter the intersection.

Intersection Operational Analysis Results

Results from the operational analysis indicate that one of the 11 study intersections does not currently meet jurisdictional mobility targets and standards. The intersection of US 20 at Business Loop 20 (west) does not meet the ODOT v/c mobility target or proposed City LOS mobility standard. The critical movement (part that is not meeting the standards) is the northbound left turn from Business Loop 20 onto US 20. Vehicles making this movement are not finding a sufficient number of gaps to allow Business Loop 20 traffic to cross the eastbound traffic and merge with the westbound traffic on US 20.

Table 6 shows the results of the existing conditions intersection operational analysis and the recommended mobility target for comparison. Figure A.1 in Attachment A provides the volumes, channelization, and analysis results for the study intersections. Attachment B provides the Synchro HCM reports for each study intersection.

TABLE 6
Existing Conditions Intersection Operational Analysis Results
2012, 30th Highest Hour Volumes

ID	Intersection	Control Type	Recommended Mobility Target				Existing (2012) Mobility					
			v/c		LOS		v/c		LOS		Delay (sec)	
			Major [a]	Minor [b]	Major	Minor	Major	Minor	Major	Minor	Major	Minor
1	US 20 at Arcadia Drive	Stop	0.70	0.75	N/A	E	0.12	0.09	A	B	1	12
2	**US 20 at OR 229**	Stop	0.80	0.90	N/A	N/A	0.18	0.54	A	E	4	42
3	**US 20 at Western Loop**	Stop	0.80	0.90	N/A	E	0.35	0.05	A	C	0	23
4	**US 20 at Business Loop 20 (west)**	Stop	0.80	0.90	N/A	E	0.55	**0.92[c]**	A	**F**	0	74
5	Business Loop 20 Spur at Business Loop 20	Stop	0.80	0.95	N/A	E	0.24	0.24	A	C	0	17
6	Business Loop 20 at Bay Boulevard	Stop	1.0	1.0	E	E	0.34	0.23	A	C	1	18
7	Business Loop 20 at A Street	Signal	1.0		D		0.55		B		19	
8	Business Loop 20 at Main Street	Stop	1.0	1.0	E	E	0.01	0.19	A	C	1	15
9	Business Loop 20 at East Slope Road	Stop	1.0	1.0	E	E	0.11	0.08	A	B	2	10
10	Business Loop 20 at Burgess Road	Stop	1.0	1.0	E	E	0.09	0.06	A	A	2	9
11	Business Loop 20 at Sturdevant Road	Stop	1.0	1.0	E	E	0.06	0.14	A	B	4	10

[a] Indicates OHP Mobility Standard v/c ratio for uncontrolled roadway approach
[b] Indicates OHP Mobility Standard v/c ratio for stop controlled roadway approach
[c] Black highlighting indicates intersection does not meet mobility standards

Queuing Analysis Results

Results from the queuing analysis indicate that three of the 11 study intersections have queue lengths that exceed available storage. Those locations are:

- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at A Street – east- and westbound approaches

This vehicle queuing analysis supports the v/c and LOS analysis. By 2035, the northbound approach at the intersection of US 20 at Business Loop 20 (west) is expected to have the worst queuing of all the study intersections. The queue spills back to the next intersection (at Business Loop 20 Spur and Business Loop 20). The simulation model shows the queue continuing on Business Loop 20 for over a third of a mile originating at US 20. Vehicles wanting to make a left turn onto US 20 are not finding sufficient gaps in the traffic to make the turn and end up waiting at the stop sign, causing a backup behind them. A queue buildup of this magnitude in 2035 would block access to US 20 eastbound and OR 229 as well as side streets and private driveways leading up to the intersection.

The results also indicate that the queues for the eastbound and westbound left turn movements at Business Loop 20 and A Street are expected to exceed their storage in 2035 without modifications. For the eastbound approach, there is a 60-foot left turn storage pocket preceded by a two-way-left-turn-lane that would allow vehicles to spill into it and not block the through traffic. This allows more movement along the main roadway, but could block

entrance and exit for the Toledo Park and Ride, which is located along Business Loop 20. The westbound left turn has a short, 15-foot turn pocket that is currently exceeded by five feet. This spillover is not a big concern for existing conditions, but it points to a location that could become an issue in the future.

During the stakeholder interviews, the Project Team asked stakeholders about congestion and long traffic queues; one stakeholder confirmed that there can be a long line of cars on Business Loop 20 waiting to turn left onto US 20. The line can sometimes extend past Dundon Road, blocking intersections and driveways as shown by the analysis above. The most congested times are around 8:00 am when school is in session and employees are heading into Newport to work. According to stakeholders, another congested time occurs at 3:00 pm and the afternoon peak hour (4:30 to 5:30 pm) as Georgia-Pacific employees change shifts.

At all other locations in the study area, queues are accommodated within their dedicated storage length. Table C.1 in Attachment C shows the results of the queuing analysis at the study intersections. The SimTraffic Queuing Analysis Report is provided in Attachment D of this memo.

Existing Conditions Methodology

A description of the existing conditions methodology can be found in Attachment E preceding the raw traffic volumes used in this study. Attachment F contains the *City of Toledo TSP –Methods and Assumptions* Technical Memorandum, which describes the process used to obtain the 30th highest volumes.

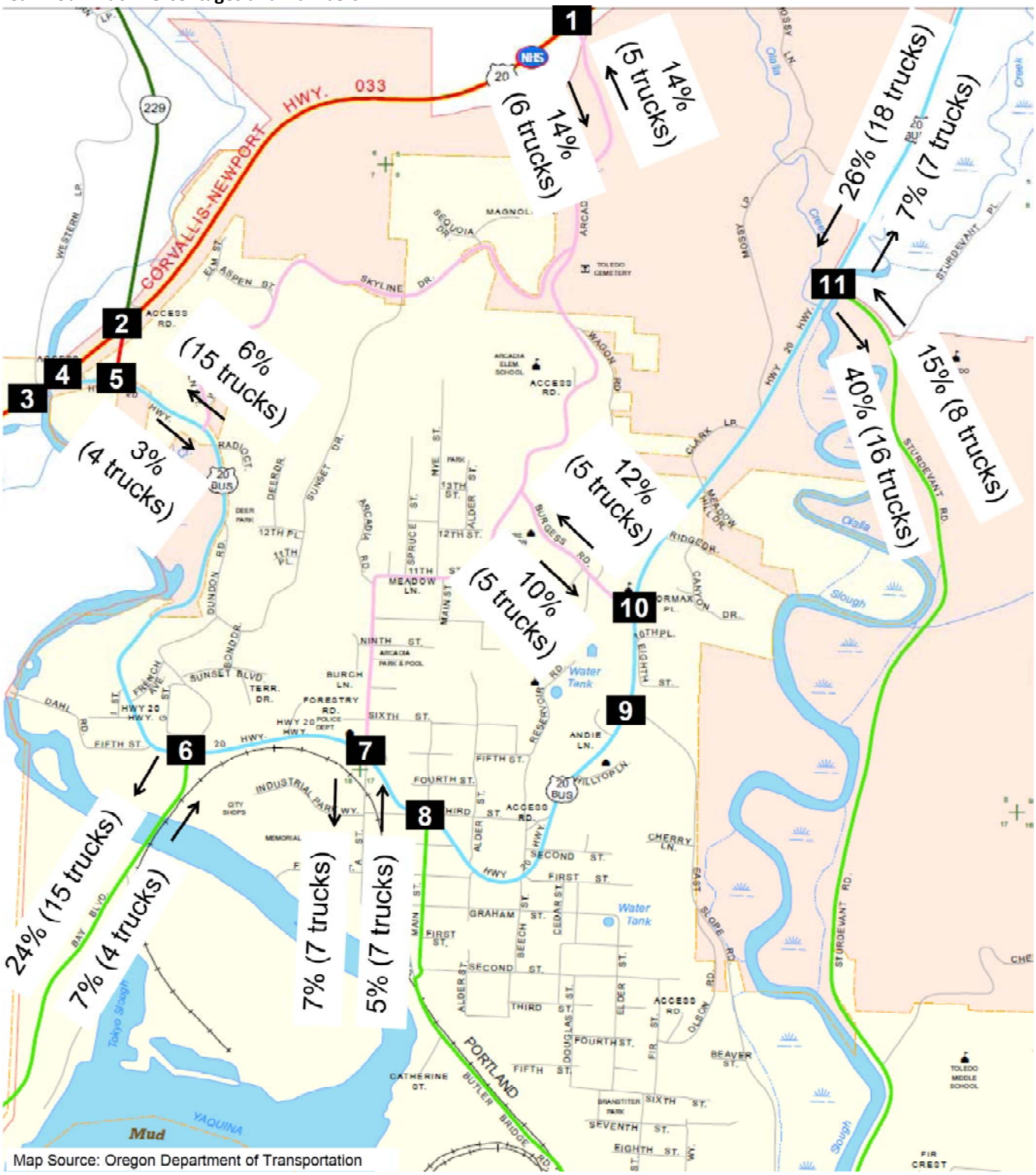
Freight Truck Operations

The City of Toledo experiences higher truck traffic than other cities of comparable size due to the presence of Georgia-Pacific, the Port of Toledo, and commercial trucking companies including Henarie Trucking and Mitchell Trucking. Freight truck movements can have several adverse impacts to local traffic operations and built environment, including increased wear on pavement, requirements for larger turning radii which may mean the inability for trucks to navigate tight turns or changes to design that would require longer pedestrian crossings, and congestion caused by higher truck volumes.

Truck traffic volumes were recorded at the same time as the traffic counts on several roads in the City. Volumes were recorded as a percentage of total vehicles during the vehicular peak hour of 4:30-5:30 pm at study area intersections. It is important to note that since these figures are percentages, the total traffic volume on the facility has a large influence on the prevalence of freight traffic. The highest incidences of truck traffic were observed on Business Loop 20 east of Sturdevant Road, Sturdevant Road south of Business Loop 20, and Bay Boulevard. Figure 6 shows all truck traffic volumes recorded within the study area.

Log Truck turning off of Business Loop 20 onto Sturdevant Road

FIGURE 6
Peak Hour Truck Percentages and Numbers



Future (2035) No-Build Traffic Conditions

This section describes the methodology and results for the 2035 future no-build condition traffic operational analysis. Results include the v/c ratio, LOS, and 95th percentile queue lengths for each of the 11 study intersections.

Future No-Build Traffic Analysis Results

The v/c ratios, LOS, and 95th percentile queue lengths were collected from the future no-build Synchro and SimTraffic simulation models for the 11 study area intersections. The post processed 2035 balanced volumes for each intersection were utilized in the analysis. The operational analysis results are based off optimized signal timings at Business Loop 20 at A Street.

Intersection Operational Analysis Results

Results from the operational analysis indicate that two of the 11 study intersections may not meet jurisdictional mobility targets and standards for the 2035 future no-build scenario. Those intersections are:

- US 20 at OR 229
- US 20 at Business Loop 20 (west)

Congestion is expected to worsen in 2035 as compared to the 2012 existing conditions, which could lead to delay for vehicles traveling within the City, as well as those entering and exiting the City.

The two intersections estimated to fail the ODOT mobility targets and the proposed City mobility standards are on US 20 at the western junction of Business Loop 20. The worst congestion is showing on the side street approaches of each of those intersections. The traffic on the highway is flowing so continuously there are few gaps that allow the side street traffic time to cross or merge into traffic. The result is a buildup of vehicles on the side streets, as demonstrated in the queue analysis results.

Table 7 shows the results of the 2035 future no-build intersection operational analysis, including the recommended mobility standards and the existing (2012) traffic intersections operational results for comparison. Figure G.1 of Attachment G shows the volumes, channelization, and analysis results for all of the study area intersections. Attachment H shows the Synchro HCM reports for each study intersection.

TABLE 7

Toledo TSP: Future No-Build Conditions Operational Analysis Results

2035, 30th Highest Hour Volumes

ID	Intersection	Control Type	No-Build Mobility Target				Existing Mobility						Forecast Mobility					
			v/c		LOS		v/c		LOS		Delay (sec)		v/c		LOS		Delay (sec)	
1	US 20 at Arcadia Drive	Stop	0.70[a]	0.75[b]	N/A	E	0.12	0.09	A	B	1	12	0.18	0.24	A	C	1	16
2	**US 20 at OR 229**	Stop	0.80	0.90	N/A	N/A	0.18	0.54	A	E	4	42	0.30	**1.71**	A	**F**	4	>6 min
3	US 20 at Western Loop	Stop	0.80	0.90	N/A	E	0.35	0.05	A	C	0	23	0.50	0.12	A	E	0	51
4	**US 20 at Business Loop 20 (west)**	Stop	0.80	0.90	N/A	E	0.55	**0.92**[c]	A	**F**	0	74	0.79	**>2**	A	**F**	0	>11 min
5	Business Loop 20 Spur at Business Loop 20	Stop	0.80	0.95	N/A	E	0.24	0.24	A	C	0	17	0.36	0.48	A	D	0	30
6	Business Loop 20 at Bay Boulevard	Stop	1.0	1.0	E	E	0.34	0.23	A	C	1	18	0.48	0.51	B	D	1	34
7	Business Loop 20 at A Street	Signal	1.0		D		0.55		B		19		0.79		C		31	
8	Business Loop 20 at Main Street	Stop	1.0	1.0	E	E	0.01	0.19	A	C	1	15	0.03	0.36	A	D	1	25
9	Business Loop 20 at East Slope Road	Stop	1.0	1.0	E	E	0.11	0.08	A	B	2	10	0.19	0.14	A	B	3	12
10	Business Loop 20 at Burgess Road	Stop	1.0	1.0	E	E	0.09	0.06	A	A	2	9	0.12	0.12	A	A	2	10
11	Business Loop 20 at Sturdevant Road	Stop	1.0	1.0	E	E	0.06	0.14	A	B	4	10	0.12	0.18	A	B	4	11

[a] Indicates OHP Mobility Standard v/c ratio for uncontrolled roadway approach

[b] Indicates OHP Mobility Standard v/c ratio for stop controlled roadway approach

[c] Black highlighting indicates intersection does not meet mobility standards

Queuing Analysis Results

The vehicle queue analysis identifies deficient vehicle storage locations and provides key information as this project advances into the alternative development stage. Table I.1 in Attachment I shows the 2035 forecast for 95th percentile vehicle queues (for each movement in the study area), while Attachment J shows the queuing and blocking report derived from the model. The queuing analysis results are based off optimized signal timings at Business Loop 20 at A Street.

The movements that are not forecast to have adequate storage in 2035 include those that were shown in the existing conditions analysis, along with an additional two intersections. A total of nine movements within five intersections are estimated to have queue lengths exceeding the storage. Those locations are listed below and described in further detail following.

- US 20 at OR 229 – east- and southbound approaches
- Business Loop 20 (west) at US 20 – northbound approach
- Business Loop 20 at Business Loop 20 Spur – westbound approach
- Business Loop 20 at Bay Boulevard – westbound approach
- Business Loop 20 at A Street – north-, east- and westbound approaches

US 20 at OR 229. This intersection was not identified as having queuing issues in the existing conditions (2012). The southbound through/right movement is estimated to have a queue over one third of a mile long. This is likely due to the vehicles trying to cross US 20 and not finding sufficient gaps. The eastbound left turning vehicles also exceed the turn pocket storage by a minor amount, but there is a short section of roadway where the left turning vehicles can spill over, so it is not likely that the turning vehicle queue will extend into the through lane on the highway.

US 20 at Business Loop 20 (west). This intersection was identified as having a northbound queue over a third of a mile in the existing conditions analysis (2012). The future no-build estimation is that this queue will exceed one and a half miles. This is the same queue of vehicles that are reported for the westbound movement at Business Loop 20 Spur, at Business Loop 20. This queue would extend past Main Street on Business Loop 20. Under these conditions, a significant portion of this traffic is likely to divert to the eastern end of Business Loop 20 or Arcadia Drive to access US 20.

Business Loop 20 at Bay Boulevard. This intersection was not identified as having queuing issues in the existing conditions (2012). The westbound left turn movement is estimated to have a queue of 100 feet for future no-build. There is a two-way left turn lane for this queue to spill into; however, the distance to the next intersection is only 90 feet, so this queue could potentially block vehicles trying to access Sunset Boulevard.

Business Loop 20 at A Street. This intersection was identified as having queuing issues for two movements in the existing conditions analysis (2012). For the future no-build analysis, four movements have queues that are predicted to exceed storage. Those movements are the eastbound left, eastbound through/right, westbound left, and northbound left/through/right. The longest queue is over 1,000 feet on the eastbound approach. This is about half way between Forestry Road and Sunset Drive on Business Loop 20. The other concern is the northbound queue, which is estimated to be just over 300 feet. There is a railroad crossing on A Street 160 feet south of the intersection, so this queue would extend over the railroad crossing.

Future No-Build Conditions Methodology

A description of the future no-build conditions methodology can be found in Attachment E preceding the raw traffic volumes used in this memo.

Safety Conditions

Overall Site Review

The Project Team requested crash data from the ODOT Crash Analysis and Reporting Unit to complete the existing safety assessment for the most recent five year period available (2006-2010). This assessment focuses on three intersections identified by City:

- US 20/OR 229 (Safety Study Intersection 2)
- US 20/Western Loop/Business Loop (Safety Study Intersection 3 and 4)
- Business Loop 20/OR 229 (Safety Study Intersection 5)

Crash data requests were provided to ODOT in the form of segments, which are identified in Figure 7 below.

FIGURE 7
Crash Analysis Study Area

The segmented crash data (Attachment K) was then separated into three safety study intersections. Safety study Intersections 3 and 4 were combined for the purposes of this study because of their close proximity.

Twelve collisions were recorded between 2006 and 2010 within the safety study area and shown in Table 8. There was one fatal collision (an angle crash in 2010), three injury collisions, and eight property-damage-only collisions.

TABLE 8
Crash Frequency 2006-2010

	Crash Severity			
Collision Type	**Fatal**	**Injury**	**Property Damage Only**	**TOTAL**
Angle	1	1	1	3
Rear-End	-	1	3	4
Turning Movement	-	1	2	3
Fixed/Other Object	-	-	2	2
TOTAL	**1**	**3**	**8**	**12**

Source: ODOT Crash Analysis and Reporting Unit

Table 9 includes the distribution of crashes by year, showing some fluctuation around an average of 2.4 crashes per year. Each year there are small fluctuations in the number of crashes that are recorded on any given roadway; when averaged out, the fluctuation in the number of crashes by year in the safety study area does not indicate any statistically significant change in safety.

TABLE 9
Crash Frequency by Year

	Crash Severity			
Year	**Fatal**	**Injury**	**Property Damage Only**	**TOTAL**
2006	-	-	2	2
2007	-	2	1	3
2008	-	-	1	1
2009	-	-	2	2
2010	1	1	2	4
TOTAL	**1**	**3**	**8**	**12**

Source: ODOT Crash Analysis and Reporting Unit

2011 ODOT Safety Priority Index System (SPIS)

Each year ODOT prepares an update to the Safety Priority Index System (SPIS), which is completed in compliance with the Federal Highway Safety Improvement Program (HSIP) required by the Federal Highway Administration (FHWA). The ODOT SPIS is calculated using a crash frequency indicator (25 percent of the SPIS score), crash rate indicator (25 percent of the SPIS score), and crash severity indicator (50 percent of the SPIS score).

As part of the Toledo TSP efforts the Project Team reviewed the 2011 ODOT top 10 percent SPIS for Region 2. There are no SPIS locations on US 20 within the study area. There are no SPIS locations on OR 229 in this area.

Safety Study Intersection 2: US 20/OR 229

Crash Data

Eight crashes were recorded at the safety study intersection of US 20/OR 229 between 2006 and 2010, as listed in Table 10. Of these eight crashes, seven occurred in the safety study intersection and one on the north leg.

TABLE 10
Crash Frequency US 20/OR 229

	Crash Severity			
Collision Type	**Fatal**	**Injury**	**Property Damage Only**	**TOTAL**
Angle	1	1	1	3
Rear-End	-	1	2	3
Turning Movement	-	-	1	1
Fixed/Other Object	-	-	1	1
TOTAL	**1**	**2**	**5**	**8**

Note: Recorded injury crash was not classified as an incapacitating injury (Injury A).
Source: ODOT Crash Analysis and Reporting Unit

The crash recorded on the north leg of the intersection occurred in 2006 at 8:00 pm. This crash was a property-damage-only, fixed/other object collision where the driver struck a guardrail. It occurred during clear weather, on a dry roadway, and at night (dark) without street lights. The vehicle was driving north, away from the intersection. The crash data indicates that the driver was traveling too fast for conditions, but not exceeding the speed limit.

A property-damage-only, angle collision was recorded at the safety study intersection at 3:00 pm in 2006. One vehicle was traveling westbound through the intersection, while the other intended to go southbound. The records indicate the southbound driver proceeded through the intersection after stopping at the stop sign and collided with the through-moving vehicle. The driver at fault was 18 and had a revoked driver's license. The driver was cited with "careless driving."

An injury-level, angle collision was recorded at 7:00 pm in 2007 at the safety study intersection. It occurred during clear weather, dry roadway surface, and "darkness with street lights." One vehicle was traveling eastbound, while the second vehicle was traveling northbound. The vehicle action codes indicate the vehicle at fault stopped at a stop sign and then proceeded through the intersection.

An injury-level, rear-end collision at the safety study intersection took place at 10:00 am in 2007. The vehicles were traveling southbound through the intersection.

A property-damage-only, rear-end collision was recorded at the intersection at 2:00 pm in 2009. The vehicles were headed southbound through the intersection. This crash is specified as a distracted driving crash, but the records do not indicate the source of distraction.

A rear-end, property-damage-only crash occurred at the intersection at 4:00 pm in 2009. The vehicles were traveling northbound through the intersection.

A property-damage-only, turning-movement collision took place at the safety study intersection at 1:00 pm in 2010. The turning vehicle was making a southbound left, to travel eastbound on US 20. The second vehicle was traveling westbound on US 20. The crash report indicates that the turning vehicle stopped at the stop sign before proceeding into traffic. The driver at fault was 74-years-old at the time of the crash, which would classify them as an "Older Driver."

A fatal, angle collision took place at the intersection at 3:00 pm in 2010, involving three vehicles. It was daylight, cloudy, and the roadway had wet pavement surfaces. The driver at fault in vehicle 3 was traveling northbound on OR 229. Of the vehicles involved on US 20, vehicle 1 (a truck with trailer) was traveling eastbound and vehicle 2 (a public vehicle) was traveling westbound. Vehicle 3, the driver at fault stopped at the stop sign on OR 229 before pulling out into traffic. Vehicle 1 overturned after the initial angle collision and struck vehicle 2. The driver at fault in vehicle 3 was 82-years-old at the time of the incident, which makes them an "Older Driver." The westbound driver in vehicle 2 was killed in the crash. The eastbound driver of vehicle 1 received no injury and the driver of vehicle 3 received possible injuries (Injury Level C).

ODOT Study

In response to the 2010 fatal collision, ODOT reviewed the intersection of US 20 and OR 229. Part of this study included a speed study, which showed an 85 percentile speed of 53 mph and a median speed of 47 mph. To help support reduced speeds through the study corridor, ODOT added duplicate speed limit signs on the left side of the road, speed 45 ahead signs, and a supplemental speed limit sign inside the speed corridor. These changes were done to help support lower speeds, which may help reduce the severity of future crashes should they occur at this location. Speed data is not currently available to establish whether these changes have resulted in a reduction in travel speeds through the area.

Safety Study Intersection 3 and 4: US 20/Western Loop/Business Loop 20

Table 11 shows that safety study intersection US 20/Western Loop/Business Loop 20 has three recorded crashes during the study period (2006-2010). One of these three crashes occurred in the safety study intersection area and the other two are recorded on the southwest leg.

TABLE 11
Crash Frequency US 20/Western Loop/Business Loop 20

	Crash Severity		
Collision Type	**Injury**	**Property Damage Only**	**TOTAL**
Rear-End	-	1	1
Turning Movement	1	-	1
Fixed/Other Object	-	1	1
TOTAL	**1**	**2**	**3**

Note: Recorded injury crash was not classified as an incapacitating injury (Injury A).
Source: ODOT Crash Analysis and Reporting Unit

The turning movement collision recorded at the safety study intersection occurred in 2010, at 5:00 pm. The crash occurred in the dark, without streetlights, and happened during raining conditions. The driver at fault was 82 years old at the time of the incident, which would classify them as an “Older Driver.”

One of the two crashes located on the southwest leg of the study intersection was recorded in 2007 and occurred at 3:00 pm. This crash was a property-damage-only, rear-end collision involving three vehicles. The crash record indicated that one vehicle was forced into a subsequent vehicle due to the force of the impact. All three vehicles were heading eastbound towards the intersection of US 20/Western Loop/Business Loop 20.

The second crash recorded on the southwest leg occurred in 2008 at 3:00 pm. This crash was coded as a property-damage-only, fixed/ other object collision and occurred during daylight and icy conditions. The vehicle struck either a cut slope or ditch embankment and then overturned after the first impact. The crash was coded as a speeding related crash, where the vehicle was traveling too fast for conditions, but not exceeding the posted speed. This vehicle was traveling westbound, leaving the intersection of US 20/Western Loop/Business Loop 20.

The emergency services stakeholders noted during interviews that they have responded to a number of crashes at this intersection, including one fatality that is not reflected in the crash data, likely because it is outside of the crash data time period (2006-2010). According to the police and fire chiefs, the fatality was the result of an earlier crash which caused a backup and stopped traffic on US 20. This unexpected stopped traffic resulted in a crash that killed an occupant of one of the stopped vehicles when an approaching vehicle failed to stop in time. These stakeholders indicated that any congestion or other incident along this stretch of highway is likely to cause similar crashes, since drivers do not expect stopped traffic and are likely exceeding the 45 mph speed limit. The Oregon State Police and Toledo Police regularly patrol the area and give tickets to speeding motorists, but the area is not always monitored for speed.

Safety Study Intersection 5: Business Loop 20/OR 229

One crash is recorded at the safety study intersection of Business Loop 20 and OR 229 during the study period (see Table 12). It is a property-damage-only, turning-movement collision was recorded in 2010 at 11:00 am. It occurred during clear weather, dry road surface, and daylight. The vehicle action code indicates that the driver "proceeded after stopping." The record also indicates that the driver was "blinded by the sun," which may have contributed to their selecting an inadequate gap to complete their maneuver.

TABLE 12
Crash Frequency Business Loop 20/OR229

	Crash Severity	
Collision Type	**Property Damage Only**	**TOTAL**
Turning Movement	1	1
TOTAL	**1**	**1**

Source: ODOT Crash Analysis and Reporting Unit

As part of the stakeholder outreach, the Police and Fire Chief provided information on safety at this location and described a fatal crash at this location where a southbound driver on OR 229 collided with a through vehicle on Business Loop 20 northbound, resulting in a fatality for the through-vehicle. This fatality was recent, though outside of the time period (2006-2010) for when the crash data were gathered from ODOT. Both the Fire and Police chiefs were concerned with the safety at this intersection and mentioned a number of crashes that have occurred here. They are also concerned that the crash data for the study time period do not adequately reflect the magnitude of the safety issues at this location, that will likely only get worse as traffic increases and turning vehicles are less patient when onto US 20.

The two chiefs and other stakeholders indicated that they have witnessed or were involved in near misses nearly every day at the intersection. Many stakeholders expressed frustration with the amount of safety problems they experience at this location and feel it should be a high priority for ODOT. The PAC reported concerns about future injuries and fatalities if the intersection is not modified. Stakeholders cited the difficulty of determining if vehicles are turning onto Business Loop 20 from eastbound US 20 when there is a queue waiting to turn westbound on US 20 from Business Loop 20. The intersection angles also create sight distance limitations and require drivers to turn their head further than 90 degrees to effectively see oncoming traffic.

In addition to difficult sight distance, community members were concerned with high speeds and the volume of traffic traveling on US 20. The traffic provides few breaks for motorists on Business Loop 20 to turn left at this intersection. Stakeholders said it was difficult to go straight through the intersection on OR 229 or turn onto US 20 due to poor visibility, high speeds on US 20, and confusing intersection design. Some community members felt that the speed limit on US 20 should be reduced in this location, while others suggested a signal or roundabout to improve safety.

Additional Stakeholder Safety Concerns

Stakeholders provided feedback on safety concerns outside of the Western Junction area (US 20/OR 229/Business Loop 20 intersections), including areas with limited sight distance that create "near misses" not necessarily reported in crash data.

Multiple stakeholders indicated that the intersection of Main Street and Business Loop 20 is a difficult intersection due to the number of roads that come together, the vertical and horizontal curves, and the speed and volume of traffic on Business Loop 20. Two stakeholders mentioned that the pillar on the building in the southwest corner of the intersection restricts sight distance for vehicles trying to make the northbound left turn onto Business Loop 20, to access US 20.

Vehicle turning left onto Business Loop 20 from Main Street. Building pillar restricts sight distance.

Another stakeholder mentioned that many of the steep and narrow roads in the City are dangerous, especially during winter weather conditions where the pavement is wet or icy. One stakeholder was concerned about cars speeding off of Business Loop 20 onto local residential streets with pedestrians and slower traffic, specifically at NE Alder Street where NE 1st Street is directly adjacent to the intersection and the steep grade makes it difficult for drivers turning off of 1st Street onto Alder to see oncoming traffic.

Other identified safety concerns were closer to downtown. On Business Loop 20, west of Bay Boulevard, several stakeholders suggested adding more lighting and a guardrail to prevent vehicles from veering off the road. Stakeholders also suggested improving the intersections of Business Loop 20 at A Street and Butler Bridge Road, at Main Street, and SW 2nd Street.

Sturdevant Road in east Toledo is another important issue for stakeholders and community members. The main public schools in Toledo are located directly on this major freight route, resulting in conflicting travel patterns. The road is narrow and winding, with limited sight distance, and few sidewalks. One stakeholder suggested reducing the speed limit along the entire length of the road to improve the safety of motorists and pedestrians. Other stakeholders suggested a separate multi-use path to provide safe access for pedestrians and bicyclists to the local schools.

Main Street Parking

The Project Team conducted a parking study, as part of the field visit in July 2012, focused on a City-designated core area extending one block east and west from Main Street, between Business Loop 20 and Butler Bridge Road/SW 2nd Street. Project Team members first counted the number of available spaces and then walked the same loop at the beginning of every hour for six hours between 12:00 pm and 6:00 pm counting the number of vehicles in on- and off-street parking spaces. The purpose of the study was to determine how many parking spaces were being used on a typical week day, during peak and nonpeak hours. Full results from the Parking Study are included in Attachment L. The results of the study show that on a typical Wednesday afternoon in July, only 23-39 percent of the available parking spots were occupied.

Parking on the southern part of Main Street

The Project Team also asked stakeholders if there was adequate parking in downtown Toledo. Two stakeholders noted that while the on-street parking signs indicate that there is a two-hour parking limit, there is no City code that allows the Police to enforce the parking limit by issuing tickets. On days where there is a lot of demand for parking, it can be difficult to find a spot. Two other stakeholders did not agree that finding parking on Main Street was a problem and suggested that only on the highest demand days (such as festivals or other events) that finding parking on Main Street is a problem. One community member suggested adding a handicapped designated parking spot on the east side of the road near SW 2nd Street. The nearest handicapped spot is across the street. Another stakeholder indicated that when on-and off-street parking lots are full on Main Street, visitors are less likely to want to park on side streets due to the steep grades east and west of Main Street.

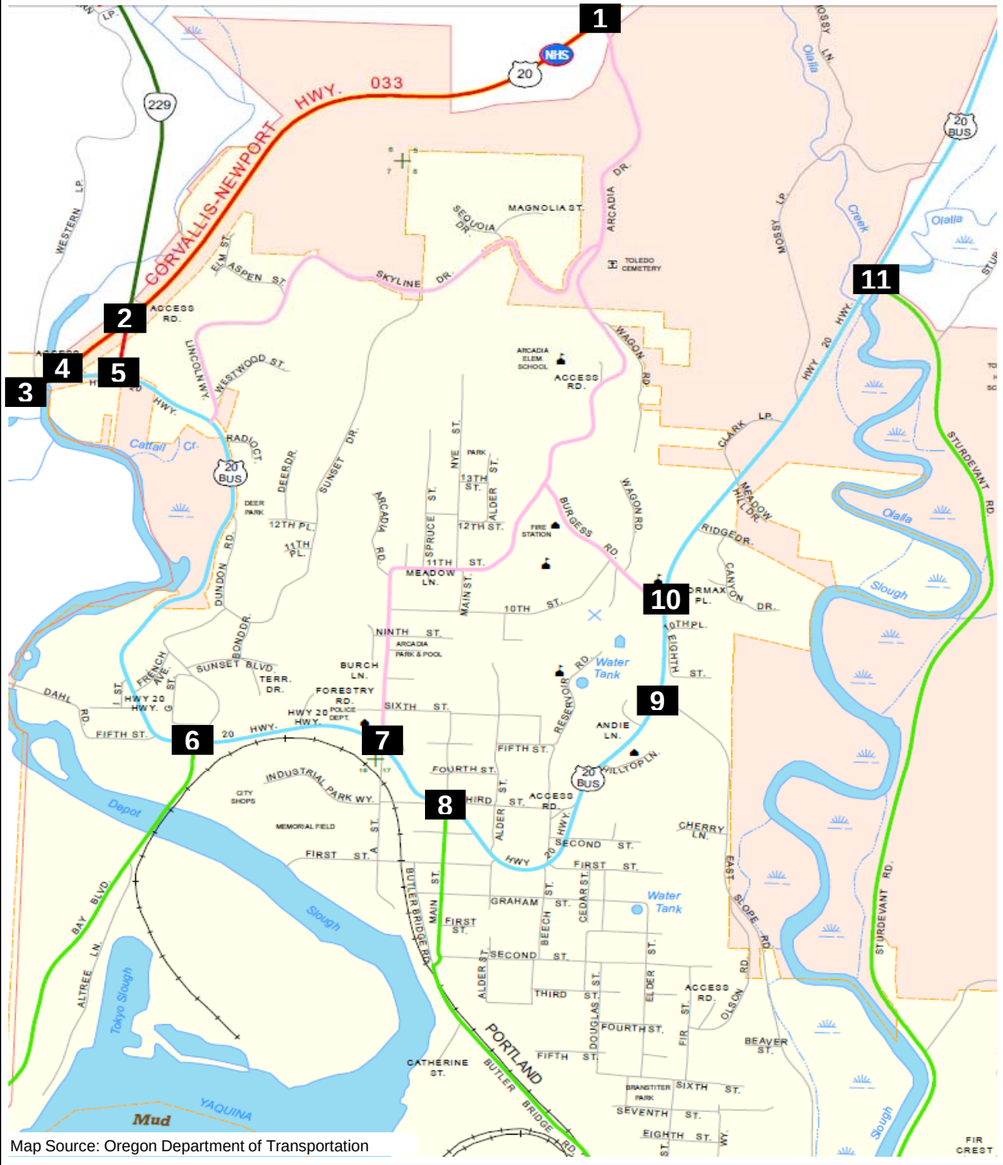
The Project Team asked stakeholders which days were likely to have the highest demand for parking. Most stakeholders said that the Summer Festival held the last weekend of July attracts around 30,000 people to Toledo, the Antique Car Show and Festival during the first weekend of August, the Labor Day Art Walk, the Summer Thursday Markets, and the Wooden Boat Festival all attract visitors to the City. The Antique Car Show and Festival closes Main Street to traffic, creating a parking shortage since much of the City's public parking is located along Main Street. The Thursday Market also closes the off-street lots along Main Street, though on-street parking is still available during the Market. These specific events create more parking demand than there are spots when they occur; however, most stakeholders thought that there was enough parking to accommodate the demand on an average day.

Next Steps

The information included in this memorandum was presented and discussed with the PAC at a meeting on October 11, 2012 and the community at a project Open House on November 7, 2012.The Project Team added additional information collected at these meetings to the final version of this memo.

Attachment A

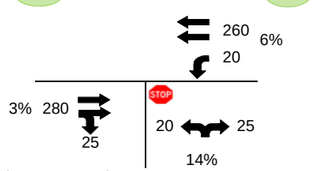
Figure A.1 – Toledo TSP: Existing Conditions Operational Analysis Results



Map Source: Oregon Department of Transportation

1 US 20 & Arcadia Drive

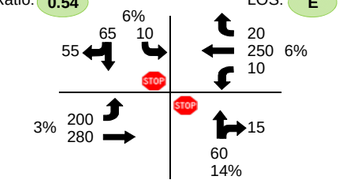
Count date: 6/11/2012-6/12/2012
Count type: 24-hr tube
V/C* Ratio Std: 0.75 — LOS Std: D
V/C Ratio: **0.12** — LOS: **B**



*V/C = volume to capacity
**LOS = level of service

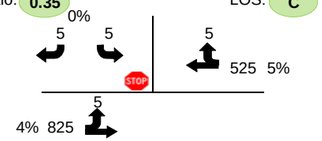
2 US 20 & OR 229

Count date: 6/11/2012
Count type: 16-hr turning movement
V/C Ratio Std: 0.90 — LOS Std: D
V/C Ratio: **0.54** — LOS: **E**



3 US 20 & Western Loop

Count date: 6/12/2012
Count type: 3-hr turning movement
V/C Ratio Std: 0.90 — LOS Std: D
V/C Ratio: **0.35** — LOS: **C**

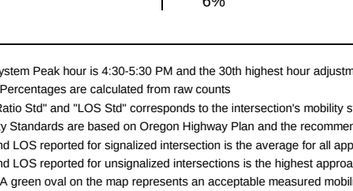


4 US 20 & Bus. Loop 20 (west)

Count date: 6/12/2012
Count type: 16-hr turning movement
V/C Ratio Std: 0.90 — LOS Std: D
V/C Ratio: **0.92** — LOS: **F**

5 US 20 & Bus. Loop 20 (spur)

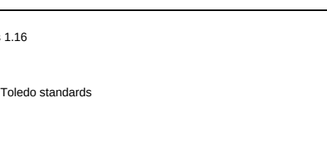
Count date: N/A***
Count type: N/A
V/C Ratio Std: 0.95 — LOS Std: D
V/C Ratio: **0.24** — LOS: **C**



***(volumes determined by nearby intersections)

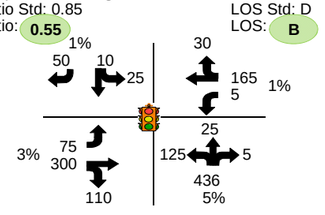
6 Bus. Loop 20 & Bay Boulevard

Count date: 6/11/2012-6/12/2012
Count type: 24-hr tube
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.34** — LOS: **C**



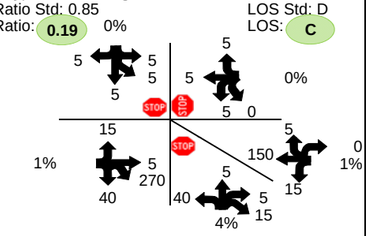
7 Bus. Loop 20 & A Street

Count date: 6/12/2012
Count type: 3-hr turning movement
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.55** — LOS: **B**



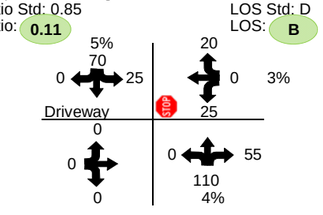
8 Bus. Loop 20 & Main Street

Count date: 6/12/2012
Count type: 3-hr turning movement
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.19** — LOS: **C**



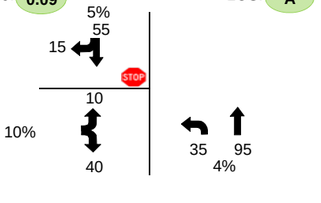
9 Bus. Loop 20 & East Slope Road

Count date: 6/11/2012
Count type: 3-hr turning movement
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.11** — LOS: **B**



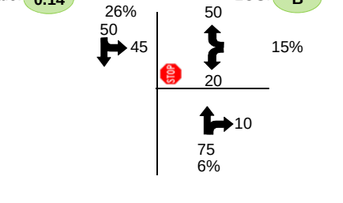
10 Bus. Loop 20 & Burgess Road

Count date: 6/11/2012-6/12/2012
Count type: 24-hr tube
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.09** — LOS: **A**



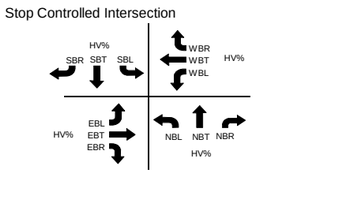
11 Bus. Loop 20 & Sturdevant Road

Count date: 6/13/2012
Count type: 3-hr turning movement
V/C Ratio Std: 0.85 — LOS Std: D
V/C Ratio: **0.14** — LOS: **B**



Legend

- Study Intersection — 555 Turning Movement Vol
- Signalized Intersection — Channelization
- Stop Controlled Intersection



CH2MHILL

FIGURE A.1 - Toledo TSP: Existing Conditions Operational Analysis Results

2012 Existing 30th Highest Hour Balanced Volumes

Notes:
1. The System Peak hour is 4:30-5:30 PM and the 30th highest hour adjustment factor is 1.16
2. Truck Percentages are calculated from raw counts
3. "V/C Ratio Std" and "LOS Std" corresponds to the intersection's mobility standards
4. Mobility Standards are based on Oregon Highway Plan and the recommended City of Toledo standards
5. V/C and LOS reported for signalized intersection is the average for all approaches
6. V/C and LOS reported for unsignalized intersections is the highest approach
7. A green oval on the map represents an acceptable measured mobility
8. A red rectangle on the map represents a failing measured mobility
9. Synchro software version 7 was used for the analysis

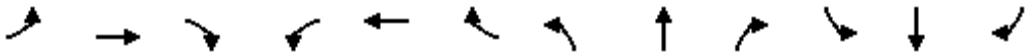
Attachment B

Synchro HCM Reports – Existing Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	280	25	20	260	20	25
Sign Control	Free			Free	Stop	
Grade	0%			3%	0%	
Peak Hour Factor	0.90	0.88	0.88	0.86	0.84	0.84
Hourly flow rate (vph)	311	28	23	302	24	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			340		522	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			340		522	170
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			98		95	96
cM capacity (veh/h)			1188		447	808

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	207	132	23	151	151	54
Volume Left	0	0	23	0	0	24
Volume Right	0	28	0	0	0	30
cSH	1700	1700	1188	1700	1700	595
Volume to Capacity	0.12	0.08	0.02	0.09	0.09	0.09
Queue Length 95th (ft)	0	0	1	0	0	7
Control Delay (s)	0.0	0.0	8.1	0.0	0.0	11.7
Lane LOS			A			B
Approach Delay (s)	0.0		0.6			11.7
Approach LOS						B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	200	280	0	10	250	0	0	60	15	0	65	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.86	0.86	0.86	0.69	0.69	0.69	0.83	0.83	0.83
Hourly flow rate (vph)	222	311	0	12	291	0	0	87	22	0	78	66
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	291			311			1175	1070	311	1135	1070	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	291			311			1175	1070	311	1135	1070	291
tC, single (s)	4.1			4.2			7.2	6.6	6.3	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	82			99			100	49	97	100	56	91
cM capacity (veh/h)	1265			1227			83	172	702	90	178	739

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	222	311	12	291	109	145
Volume Left	222	0	12	0	0	0
Volume Right	0	0	0	0	22	66
cSH	1265	1700	1227	1700	203	273
Volume to Capacity	0.18	0.18	0.01	0.17	0.54	0.53
Queue Length 95th (ft)	16	0	1	0	70	72
Control Delay (s)	8.5	0.0	8.0	0.0	41.7	32.2
Lane LOS	A		A		E	D
Approach Delay (s)	3.5		0.3		41.7	32.2
Approach LOS					E	D

Intersection Summary				
Average Delay	10.2			
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	260	0	10	120	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.83	0.83	0.86	0.86
Hourly flow rate (vph)	289	0	12	145	0	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			289		458	289
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			289		458	289
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			99		100	97
cM capacity (veh/h)			1250		549	741

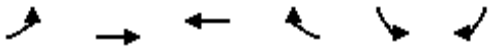
Direction, Lane #	NB 1	SB 1	NW 1
Volume Total	289	157	23
Volume Left	0	12	0
Volume Right	0	0	23
cSH	1700	1250	741
Volume to Capacity	0.17	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.7	10.0
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	10.0
Approach LOS			B

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		24.9%	ICU Level of Service A
Analysis Period (min)		15	

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (veh/h)	10	0	0	295	260	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.92	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	12	0	0	328	302	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	630	302	326			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630	302	326			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	97	100	100			
cM capacity (veh/h)	439	737	1228			

Direction, Lane #	SE 1	NE 1	SW 1	SW 2
Volume Total	12	328	302	23
Volume Left	12	0	0	0
Volume Right	0	0	0	23
cSH	439	1700	1700	1700
Volume to Capacity	0.03	0.19	0.18	0.01
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	13.4	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	13.4	0.0	0.0	
Approach LOS	B			

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	825	525	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	6	938	590	6	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	590				1542	593
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	590				1542	593
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	99
cM capacity (veh/h)	976				127	509

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	943	596	12
Volume Left	6	0	6
Volume Right	0	6	6
cSH	976	1700	255
Volume to Capacity	0.01	0.35	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.2	0.0	23.4
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	23.4
Approach LOS			C

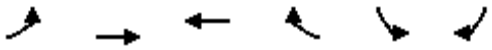
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	475	355	0	305	225	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.97	0.97	0.85	0.85
Hourly flow rate (vph)	540	403	0	314	265	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			943		1056	741
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			943		1056	741
tC, single (s)			4.1		*5.9	*5.7
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		9	99
cM capacity (veh/h)			715		290	462

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	943	314	271
Volume Left	0	0	265
Volume Right	403	0	6
cSH	1700	1700	293
Volume to Capacity	0.55	0.18	0.92
Queue Length 95th (ft)	0	0	220
Control Delay (s)	0.0	0.0	73.9
Lane LOS			F
Approach Delay (s)	0.0	0.0	73.9
Approach LOS			F

Intersection Summary			
Average Delay	13.1		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	355	230	75	75	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.85	0.69	0.83	0.92
Hourly flow rate (vph)	0	403	271	109	90	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	379				728	325
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	379				728	325
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				76	100
cM capacity (veh/h)	1168				384	716

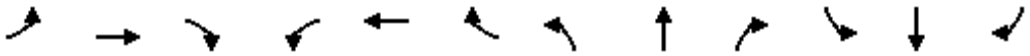
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	403	379	90
Volume Left	0	0	90
Volume Right	0	109	0
cSH	1700	1700	384
Volume to Capacity	0.24	0.22	0.24
Queue Length 95th (ft)	0	0	22
Control Delay (s)	0.0	0.0	17.2
Lane LOS			C
Approach Delay (s)	0.0	0.0	17.2
Approach LOS			C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	445	35	40	300	30	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.82	0.82	0.86	0.86	0.86
Hourly flow rate (vph)	536	43	49	349	35	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			579		1004	557
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			579		1004	557
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			95		86	91
cM capacity (veh/h)			895		248	520

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	579	49	349	81
Volume Left	0	49	0	35
Volume Right	43	0	0	47
cSH	1700	895	1700	354
Volume to Capacity	0.34	0.05	0.21	0.23
Queue Length 95th (ft)	0	4	0	22
Control Delay (s)	0.0	9.3	0.0	18.2
Lane LOS		A		C
Approach Delay (s)	0.0	1.1		18.2
Approach LOS				C

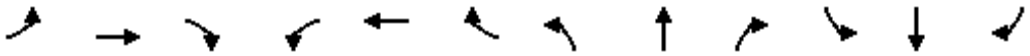
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	75	300	110	5	165	30	125	25	5	25	10	50
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	15	12	12	13	12	12	16	12	12	16	16
Grade (%)		0%			0%			10%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.98			1.00			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1614	1782		1646	1749			1716			1751	
Flt Permitted	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (perm)	1614	1782		1646	1749			1716			1751	
Peak-hour factor, PHF	0.83	0.83	0.83	0.86	0.86	0.86	0.77	0.77	0.77	0.86	0.86	0.86
Adj. Flow (vph)	90	361	133	6	192	35	162	32	6	29	12	58
RTOR Reduction (vph)	0	15	0	0	7	0	0	2	0	0	52	0
Lane Group Flow (vph)	90	479	0	6	220	0	0	198	0	0	47	0
Confl. Peds. (#/hr)			2						4			6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	5%	5%	5%	1%	1%	1%
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	4.5	23.4		0.6	19.5			8.8			5.3	
Effective Green, g (s)	4.5	23.4		0.6	19.5			8.8			5.3	
Actuated g/C Ratio	0.08	0.43		0.01	0.36			0.16			0.10	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	134	771		18	630			279			172	
v/s Ratio Prot	c0.06	c0.27		0.00	0.13			c0.12			c0.03	
v/s Ratio Perm												
v/c Ratio	0.67	0.62		0.33	0.35			0.71			0.27	
Uniform Delay, d1	24.1	11.9		26.6	12.7			21.4			22.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.5	1.6		10.6	0.3			8.3			0.9	
Delay (s)	36.5	13.5		37.2	13.0			29.7			23.5	
Level of Service	D	B		D	B			C			C	
Approach Delay (s)		17.0			13.6			29.7			23.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	270	40	15	150	5	40	5	15	5	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.85	0.85	0.85	0.74	0.74	0.74	0.75	0.75	0.75
Hourly flow rate (vph)	18	329	49	18	176	6	54	7	20	7	7	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		761										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	182			378			615	608	354	629	629	179
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			370			608	601	345	622	623	179
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	98	97	98	98	99
cM capacity (veh/h)	1399			1186			385	397	688	374	391	869

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	396	200	81	20
Volume Left	18	18	54	7
Volume Right	49	6	20	7
cSH	1399	1186	434	470
Volume to Capacity	0.01	0.01	0.19	0.04
Queue Length 95th (ft)	1	1	17	3
Control Delay (s)	0.5	0.8	15.2	13.0
Lane LOS	A	A	C	B
Approach Delay (s)	0.5	0.8	15.2	13.0
Approach LOS			C	B

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	35.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	25	20	110	55	25	70
Sign Control	Stop		Free			Free
Grade	10%		0%			0%
Peak Hour Factor	0.79	0.79	0.87	0.87	0.90	0.90
Hourly flow rate (vph)	32	25	126	63	28	78
Pedestrians	9		9			9
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	309	176			199	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	309	176			199	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	97			98	
cM capacity (veh/h)	656	851			1346	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	57	190	106
Volume Left	32	0	28
Volume Right	25	63	0
cSH	730	1700	1346
Volume to Capacity	0.08	0.11	0.02
Queue Length 95th (ft)	6	0	2
Control Delay (s)	10.3	0.0	2.2
Lane LOS	B		A
Approach Delay (s)	10.3	0.0	2.2
Approach LOS	B		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	35	95	55	15	10	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.90	0.90	0.61	0.61
Hourly flow rate (vph)	40	109	61	17	16	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	78				259	69
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78				259	69
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	97				98	93
cM capacity (veh/h)	1508				694	972

Direction, Lane #	NB 1	NB 2	SB 1	SE 1
Volume Total	40	109	78	82
Volume Left	40	0	0	16
Volume Right	0	0	17	66
cSH	1508	1700	1700	899
Volume to Capacity	0.03	0.06	0.05	0.09
Queue Length 95th (ft)	2	0	0	7
Control Delay (s)	7.5	0.0	0.0	9.4
Lane LOS	A			A
Approach Delay (s)	2.0		0.0	9.4
Approach LOS				A

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	20	50	75	10	45	50
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.61	0.61	0.78	0.78	0.75	0.75
Hourly flow rate (vph)	33	82	96	13	60	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289	103			96	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289	103			96	
tC, single (s)	6.6	6.4			4.4	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.4	
p0 queue free %	95	91			96	
cM capacity (veh/h)	645	918			1360	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	115	109	127
Volume Left	33	0	60
Volume Right	82	13	0
cSH	819	1700	1360
Volume to Capacity	0.14	0.06	0.04
Queue Length 95th (ft)	12	0	3
Control Delay (s)	10.1	0.0	3.9
Lane LOS	B		A
Approach Delay (s)	10.1	0.0	3.9
Approach LOS	B		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment C

Table C.1 – Toledo TSP: Existing Conditions Queuing Analysis Results

TABLE C.1

Toledo TSP: Existing Conditions Queuing Analysis Results

2012, 30th Highest Hour Volumes

ID	Intersection	Approach	Lane Group	Existing Storage (feet)	95th % Queue Length[a] (feet)
1	US 20 at Arcadia Drive	Eastbound	Thru/Right	-	-
		Westbound	Left	200	40[b]
			Thru	-	-
		Northbound	Left/Right	Unconstrained	70
2	US 20 at OR 229	Eastbound	Left	130	60
			Thru	-	-
		Westbound	Left	320	10
			Thru	-	-
		Northbound	Thru/Right	365	100
		Southbound	Left	80	30
			Thru/Right	Unconstrained	160
3	US 20 at Western Loop	Eastbound	Left/Thru	Unconstrained	50
		Westbound	Thru/Right	-	-
		Southbound	Left	Unconstrained	20
			Right	Unconstrained	0
4	US 20 at Business Loop 20 (west)	Eastbound	Thru/Right	-	-
		Westbound	Thru	-	-
		Northbound	**Left/Right**	**350**	**1950 (>1/3 mile)[c]**
5	US 20 (spur) at Business Loop 20	Eastbound	Thru	-	-
		Westbound	**Thru/Right**	**Unconstrained**	**Same queue as above**
		Southbound	Left	365	80
6	Business Loop 20 at Bay Boulevard	Eastbound	Thru/Right	-	-
		Westbound	Left	90	80
			Thru	-	-
		Northbound	Left/Right	Unconstrained	90
7	Business Loop 20 at A Street	**Eastbound**	**Left**	**60**	**90**
			Thru/Right	650	220
		Westbound	**Left**	**15**	**20**
			Thru/Right	700	110
		Northbound	Left/Thru/Right	160 (to RR)	140
		Southbound	Left/Thru/Right	330	70
8	Business Loop 20 at Main Street[d]	Eastbound	Left/Thru/Right	700	30
		North-westbound	Left/Thru/Right	300	20
		Northbound	Left/Thru/Right	200	70
		Southbound	Left/Thru/Right	240	40
9	Business Loop 20 at East Slope Road	Westbound	Left/Right	Unconstrained	60
		Northbound	Thru/Right	-	-
		Southbound	Left/Thru	Unconstrained	30
10	Business Loop 20 at Burgess Road	Eastbound	Left/Right	Unconstrained	50
		Northbound	Left	50	30
			Thru	-	-
		Southbound	Thru/Right	-	-
11	Business Loop 20 at Sturdevant Road	Westbound	Left/Right	Unconstrained	100
		Northbound	Thru/Right	-	-
		Southbound	Left/Thru	Unconstrained	40

[a] Queues are determined using SimTraffic software and calculated using an average of five, one hour simulation runs

[b] Queue lengths rounded up to the nearest 10 feet and not reported for free-flowing and uncontrolled movements

[c] Movements in black highlight indicate a vehicle queue length that exceeds the available storage length

[d] 3rd Street was not included in the traffic model, but queue is 20' according to the two-minute rule

Attachment D

SimTraffic Queuing Report – Existing Conditions

Intersection: 1: US 20 & Arcadia Drive

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	54	89
Average Queue (ft)	6	31
95th Queue (ft)	31	69
Link Distance (ft)		917
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: US 20 & OR 229

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	TR
Maximum Queue (ft)	87	36	8	32	136	107
Average Queue (ft)	20	2	1	6	37	30
95th Queue (ft)	60	16	4	23	100	87
Link Distance (ft)		530		103	390	110
Upstream Blk Time (%)						2
Queuing Penalty (veh)						3
Storage Bay Dist (ft)	130		200			
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 3: US 20 & Western Loop

Movement	EB	SB
Directions Served	LT	L
Maximum Queue (ft)	125	22
Average Queue (ft)	7	3
95th Queue (ft)	42	13
Link Distance (ft)	1992	2050
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: US 20 (west) & Bus Loop 20

Movement	NB
Directions Served	LR
Maximum Queue (ft)	370
Average Queue (ft)	348
95th Queue (ft)	422
Link Distance (ft)	349
Upstream Blk Time (%)	59
Queuing Penalty (veh)	138
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Bus Loop 20 & US 20 (spur)

Movement	WB	B15	SB
Directions Served	TR	T	L
Maximum Queue (ft)	613	620	89
Average Queue (ft)	425	227	39
95th Queue (ft)	779	743	71
Link Distance (ft)	509	2920	390
Upstream Blk Time (%)	39		
Queuing Penalty (veh)	129		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Bus Loop 20 & Yaquina Bay Road

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	27	104	30	119
Average Queue (ft)	1	22	1	40
95th Queue (ft)	13	72	22	87
Link Distance (ft)	560		1441	1788
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		90		
Storage Blk Time (%)		1		
Queuing Penalty (veh)		2		

Intersection: 7: Bus Loop 20 & A Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	136	275	35	150	177	82
Average Queue (ft)	32	96	4	41	73	26
95th Queue (ft)	89	220	19	103	137	62
Link Distance (ft)		1441		658	1226	1460
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	150		15			
Storage Blk Time (%)	0	3	4	13		
Queuing Penalty (veh)	0	3	8	1		

Intersection: 8: Bus Loop 20 & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	30	81	39
Average Queue (ft)	4	2	30	12
95th Queue (ft)	29	15	61	39
Link Distance (ft)	658	525	1370	305
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: East Slope Road & Bus Loop 20

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	71	32	40
Average Queue (ft)	24	1	4
95th Queue (ft)	56	15	24
Link Distance (ft)	1383	1114	765
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Bus Loop 20 & Burgess Road

Movement	NB	NB	SE
Directions Served	L	T	LR
Maximum Queue (ft)	56	18	74
Average Queue (ft)	5	1	16
95th Queue (ft)	29	13	47
Link Distance (ft)		765	1348
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 11: Sturdevant Road & Bus Loop 20

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	128	82
Average Queue (ft)	46	6
95th Queue (ft)	94	36
Link Distance (ft)	2007	2332
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20: OR 229 & Channelized Turn

Movement	NB	SB	NW
Directions Served	T	LT	R
Maximum Queue (ft)	7	107	58
Average Queue (ft)	0	11	15
95th Queue (ft)	5	72	42
Link Distance (ft)	110	1546	41
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 200: Channelized Turn & US 20

Movement	SE	SW
Directions Served	L	R
Maximum Queue (ft)	32	19
Average Queue (ft)	7	1
95th Queue (ft)	28	8
Link Distance (ft)	41	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 284

Attachment E

Traffic Analysis Methodology and Raw Traffic Volumes

Existing Conditions Methodology

This section describes the data collected and the methodology used for the traffic operational and crash analyses.

Study Intersections and Analysis Time Period

The existing conditions traffic operational analysis was conducted for 2012 using the 30th highest hour volumes. A total of 11 study intersections, all under City or ODOT jurisdiction, were analyzed as part of the study. ODOT collected counts on June 11-13, 2012. ODOT conducted a variety of counts, shown in Table 7.

Sixteen-hour turning movement counts were taken at two locations along US 20. The remaining counts were either three-hour turning movement counts that spanned over the PM peak, or 24-hour tube counts. All counts provided full vehicle classification, where truck traffic is divided by axle. Counts were not taken at the intersection of the Business Loop 20 Spur and Business Loop 20. The volumes at this intersection were deduced based on the nearby counts that were done along US 20.

Based on the volume counts for all intersections within the study area, a system wide peak hour of 4:30-5:30 PM was determined and used for all 11 study intersections. Table 7 outlines the intersection control type (traffic signal versus stop sign), jurisdiction, and count type for each intersection within the study area. **Attachment E** has the raw traffic volumes.

TABLE 7
Toledo TSP: Traffic Study Intersections

ID	Intersection	Control Type	Jurisdiction	Count Date	Count Hours[a]	Count Type
1	US 20 at Arcadia Drive	Stop	ODOT	6/11-12/2012	9:45 AM – 9:45 AM	Full Class 24-hr Tube
2	US 20 at OR 229	Stop	ODOT	6/11/2012	6:00 AM – 10:00 PM	Full Class 16-hr Turning Movement
3	US 20 at Western Loop	Stop	ODOT	6/12/2012	3:00 PM – 6:00 PM	Full Class PM Peak Turning Movement
4	US 20 at Business Loop 20 (west)	Stop	ODOT	6/12/2012	6:00 AM – 10:00 PM	Full Class 16-hr Turning Movement
5	Business Loop 20 Spur at Business Loop 20	Stop	ODOT	N/A[b]	N/A	N/A
6	Business Loop 20 at Yaquina Bay Road	Stop	City	6/11-12/2012	8:30 AM – 8:30 AM	Full Class 24-hr Tube
7	Business Loop 20 at A Street	Signal	City	6/12/2012	3:00 PM – 6:00 PM	Full Class PM Peak Turning Movement
8	Business Loop 20 at Main Street	Stop	City	6/12/2012	3:00 PM – 6:00 PM	Full Class PM Peak Turning Movement
9	Business Loop 20 at East Slope Road	Stop	City	6/11/2012	3:00 PM – 6:00 PM	Full Class PM Peak Turning Movement
10	Business Loop 20 at Burgess Road	Stop	City	6/11-12/2012	9:30 AM – 9:30 AM	Full Class 24-hr Tube
11	Business Loop 20 at Sturdevant Road	Stop	City	6/13/2012	3:00 PM – 6:00 PM	Full Class PM Peak Turning Movement

[a] System wide peak hour for the study intersections is 4:30 – 5:30 PM
[b] No count was collected at Business Loop 20 Spur and Business Loop 20, volumes were used from nearby intersections

Seasonal Adjustments

ODOT traffic analysis procedures require the 30th highest hour traffic volumes be used for planning, project design, and to calculate volume to capacity (v/c) ratios for intersections and roadway segments. The 30th highest hour represents the 30th highest recorded traffic volumes during a one-year period.

ODOT guidelines require that raw volumes be processed through four steps:

1. Collect raw traffic volumes and determine individual intersection peak hour.
2. Consolidate traffic counts and determine a system peak hour for all intersections within the study area.
3. Apply the seasonal adjustment factor to obtain the 30th highest peak hour volumes. The method used to calculate the factor is explained in *City of Toledo TSP –Methods and Assumptions* Technical Memorandum.
4. Balance the 30th highest peak hour volumes for use in the traffic analysis.

Attachment F contains the *City of Toledo TSP –Methods and Assumptions* Technical Memorandum, which describes the process used to obtain the 30th highest volumes. Intersection counts were collected on three different days in 2012 and the resulting seasonal adjustment factors are shown in Table 8. A seasonal factor of 1.16 was applied to all counts for consistency. This value applied to the June 13 counts will result in more conservative volumes than using the seasonal factor calculated for that exact day.

Figure A.1 in **Attachment A** shows the balanced 30th highest volumes for all the study intersections.

TABLE 8
Toledo TSP: 2012 Seasonal Trend Adjustment

Count Date	Seasonal Adjustment Factor
June 11, 2012	1.16[a]
June 12, 2012	1.16
June 13, 2012	1.15

[a] Factor applied to all counts

Traffic Analysis Software Tools

A Synchro 7 computer traffic operations model was constructed for the study area based on the collected traffic turning movement counts, peak hour factors, truck percentages, posted speeds and field observations. This model was used to assess existing traffic operations within the study area.

The Synchro model uses methodologies in the 2000 Highway Capacity Manual (HCM) to analyze both signalized and stop-controlled intersections. The model also computes the LOS and v/c ratio to determine whether the intersection meets the applicable mobility targets and standards.

SimTraffic, a traffic microsimulation software program, was used to collect vehicle queuing information for all signalized intersections. As a microscopic traffic model, SimTraffic models each vehicle as a separate entity with its own individual parameters and car-following logic.

Vehicle queue results are reported for the expected 95th percentile queue length, which means that 95 percent of the time during the peak hour analyzed, the queue length should be less than or equal to the value reported. An average of at least five runs of SimTraffic was used to calculate the 95th percentile queue lengths.

Future No-Build Conditions Methodology

The project study area for the 2035 future no-build traffic analysis is based on the existing traffic analysis covered previously in the memorandum and includes the same 11 study intersections, channelization and geometry.

Analysis Year and Time Period

The year 2035 was chosen as the horizon analysis year for the future no-build traffic analysis. This year was chosen to provide a 20 year forecast horizon from the completion of the project. The 30th highest hour was selected as the future no-build analysis time period because it is consistent with the existing conditions traffic analysis.

Future No-Build Forecasting

The analysis uses historical trends to forecast the future volumes, since a transportation model is unavailable for the study area. This forecasting process was described as part of the methods and assumptions memorandum in **Attachment F.** The resulting growth factor was 1.53. This number was applied to the existing conditions, balanced 30th highest hour volumes. Those volumes showed a high concentration of vehicles using Business Loop 20 (west) to access US 20. Although that is the preferred route for most drivers, future delay is expected to be high at this location and drivers will likely access the highway at alternate locations. Since the exact distribution is unknown, a conservative change was made such that five percent of the vehicles were rerouted to US 20 westbound using Arcadia Drive and 15 percent were rerouted to US 20 westbound using Business Loop 20 east. The resulting volumes were balanced and then used as the 2035 no-build 30th highest hour intersection turning movements, shown in **Figure G.1** in **Attachment G**.

Performance Mobility Targets

For the 2035 Future No-Build conditions, the mobility targets for intersections within ODOT's jurisdiction vary based on roadway classification. The proposed City mobility standards will be carried forward from the existing conditions analysis. Table 10 shows the mobility standards for the intersection operational analysis.

Traffic Analysis Software Tools.

The future no-build analysis software tools are consistent with the existing conditions analysis.

Summary of Traffic Count
Transportation Development Division

Site: 21188
County: Lincoln
City: RURAL
Milepoint: 0.05
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/11/2012 9:45 AM-
Highway #: 8407
Location: On Arcadia Drive, 0.05 mile south of Corvallis Newport Highway No. 33 (US20)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
0:00	0	0		0	0	0
0:15	0	0		0	0	0
0:30	0	0		0	0	0
0:45	0	0		0	0	0
1:00	1	1		1	1	1
1:15	1	1		1	1	1
1:30	0	0		0	0	0
1:45	0	0		0	0	0
2:00	1	1		1	1	1
2:15	0	1		1	0	1
2:30	0	0		0	0	0
2:45	0	0		0	0	0
3:00	0	0		0	0	0
3:15	2	1		3	2	1
3:30	0	1		1	0	1
3:45	0	0		0	0	0
4:00	2	3		4	2	3
4:15	1	1		2	1	1
4:30	0	3		3	0	3
4:45	2	3		4	2	3
5:00	3	3		6	3	3
5:15	6	2		8	6	2
5:30	5	2		7	5	2
5:45	3	11		13	3	11
6:00	5	12		17	5	12
6:15	8	10		18	8	10
6:30	4	21		25	4	21
6:45	13	32		44	13	32
7:00	7	20		27	7	20
7:15	9	18		27	9	18
7:30	12	16		28	12	16
7:45	7	13		20	7	13
8:00	1	9		10	1	9
8:15	8	6		14	8	6
8:30	3	8		11	3	8
8:45	4	7		11	4	7
9:00	4	5		9	4	5
9:15	7	5		12	7	5
9:30	2	6		8	2	6
9:45	4	5		9	4	5
10:00	2	7		9	2	7
10:15	9	4		12	9	4
10:30	3	7		10	3	7
10:45	6	9		15	6	9
11:00	4	7		11	4	7
11:15	10	6		16	10	6
11:30	9	5		13	9	5
11:45	4	9		12	4	9
12:00	8	6		14	8	6
12:15	4	7		11	4	7

Summary of Traffic Count
Transportation Development Division

Site: 21188
County: Lincoln
City: RURAL
Milepoint: 0.05
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/11/2012 9:45 AM-
Highway #: 8407
Location: On Arcadia Drive, 0.05 mile south of Corvallis Newport Highway No. 33 (US20)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
12:30	7	7		13	7	7
12:45	6	7		12	6	7
13:00	9	6		15	9	6
13:15	6	7		13	6	7
13:30	5	8		12	5	8
13:45	8	7		15	8	7
14:00	8	7		15	8	7
14:15	9	7		16	9	7
14:30	8	13		20	8	13
14:45	7	8		15	7	8
15:00	11	8		19	11	8
15:15	9	8		17	9	8
15:30	11	12		23	11	12
15:45	5	8		12	5	8
16:00	8	8		16	8	8
16:15	15	10		25	15	10
16:30	11	11		22	11	11
16:45	8	6		14	8	6
17:00	11	10		21	11	10
17:15	9	11		20	9	11
17:30	10	6		16	10	6
17:45	8	2		10	8	2
18:00	7	3		9	7	3
18:15	5	6		10	5	6
18:30	3	4		6	3	4
18:45	7	3		9	7	3
19:00	3	2		4	3	2
19:15	6	2		8	6	2
19:30	7	3		10	7	3
19:45	5	2		7	5	2
20:00	2	3		5	2	3
20:15	2	2		4	2	2
20:30	6	4		9	6	4
20:45	5	1		6	5	1
21:00	1	2		3	1	2
21:15	3	1		4	3	1
21:30	2	1		3	2	1
21:45	1	2		3	1	2
22:00	2	1		2	2	1
22:15	2	1		3	2	1
22:30	1	1		2	1	1
22:45	1	1		1	1	1
23:00	1	0		1	1	0
23:15	1	0		1	1	0
23:30	0	0		0	0	0
23:45	1	0		1	1	0
Total Count	421	498		919	421	497.5
24hr Factor	1	1		1	1	1
24hr Volume	421	498		919	421	498

Summary of Traffic Count
Transportation Development Division

Site: 21012012
County: Lincoln
City: RURAL

Date: 6/11/2012
Hours: 6:00 AM-10:00 PM
Highway #: 033

Milepoint: 5.74
Count Number: 1.00

Location: US20 @ OR229 & US20 Bus loop
Weather: Clear

	Summary By Movements														Entering Volumes			
Time of Day	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S		TOTAL	North	East	South	West
6:00	7	47	56	4	6	94	16	3	0	9	70	0		312	110	104	19	79
6:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
6:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
6:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
7:00	4	12	26	1	4	44	14	1	0	2	23	0		131	42	49	15	25
7:15	4	13	29	1	1	48	3	0	0	6	16	0		121	46	50	3	22
7:30	9	10	33	4	1	87	5	4	0	12	24	0		189	52	92	9	36
7:45	5	13	30	5	3	88	12	3	0	14	31	0		204	48	96	15	45
8:00	13	9	28	2	4	51	8	3	0	9	32	0		159	50	57	11	41
8:15	5	10	30	4	3	53	5	7	0	7	35	0		159	45	60	12	42
8:30	6	11	34	2	0	52	6	3	0	9	32	0		155	51	54	9	41
8:45	5	8	21	2	4	41	6	3	0	14	26	0		130	34	47	9	40
9:00	12	34	76	5	14	179	30	13	0	37	145	0		545	122	198	43	182
9:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
9:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
9:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
10:00	11	29	71	6	16	175	34	12	0	43	152	0		549	111	197	46	195
10:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
11:00	16	37	63	11	9	143	33	20	0	51	165	0		548	116	163	53	216
11:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
12:00	11	24	44	10	18	211	42	20	0	51	165	0		596	79	239	62	216
12:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
13:00	11	48	58	11	19	164	32	12	0	54	175	1		585	117	194	44	230
13:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
14:00	20	39	42	8	18	183	42	16	0	68	180	1		617	101	209	58	249
14:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

Summary of Traffic Count
Transportation Development Division

Site: 21012012
County: Lincoln
City: RURAL

Date: 6/11/2012
Hours: 6:00 AM-10:00 PM
Highway #: 033

Milepoint: 5.74
Count Number: 1.00

Location: US20 @ OR229 & US20 Bus loop
Weather: Clear

	Summary By Movements														Entering Volumes			
Time of Day	N-E	N-S	N-W	E-N	E-S	E-W	S-N	S-E	S-W	W-N	W-E	W-S		TOTAL	North	East	South	West
14:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
15:00	4	16	13	4	2	45	12	1	0	25	54	0		176	33	51	13	79
15:15	1	13	21	1	7	76	10	9	0	19	50	0		207	35	84	19	69
15:30	7	8	10	5	2	41	18	4	0	21	57	0		173	25	48	22	78
15:45	1	8	13	6	7	32	21	10	0	23	59	0		180	22	45	31	82
16:00	6	10	19	4	6	66	12	6	0	34	41	0		204	35	76	18	75
16:15	3	14	9	4	4	59	19	8	0	34	70	0		224	26	67	27	104
16:30	4	10	18	4	0	59	5	3	0	34	45	0		182	32	63	8	79
16:45	0	21	12	5	4	49	14	4	0	38	59	0		206	33	58	18	97
17:00	2	10	7	2	1	38	21	3	0	48	53	0		185	19	41	24	101
17:15	3	16	6	8	5	42	13	3	0	40	67	0		203	25	55	16	107
17:30	0	8	18	4	1	44	9	2	0	30	42	0		158	26	49	11	72
17:45	4	15	12	2	0	47	13	4	0	23	33	0		153	31	49	17	56
18:00	11	23	39	13	7	119	40	13	0	84	132	0		481	73	139	53	216
18:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
19:00	8	24	24	15	5	77	28	6	0	61	77	0		325	56	97	34	138
19:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
20:00	4	17	27	8	4	62	28	3	0	44	68	0		265	48	74	31	112
20:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
21:00	8	19	13	9	0	53	12	4	0	33	46	0		197	40	62	16	79
21:15	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Total Count	205	576	902	170	175	2522	563	203	0	977	2224	2		8519	1683	2867	766	3203
24hr Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1		1.1	1.1	1.1	1.1	1.1
24hr Volume	226	634	993	187	193	2775	620	224	0	1075	2447	3		9371	1852	3154	843	3524

Summary of Traffic Count
Transportation Development Division

Site: 21022012
County: Lincoln
City: RURAL
Milepoint: 5.58
Count Number: 1.00

Date: 6/12/2012
Hours: 3:00 PM-6:00 PM
Highway #: 033
Location: US20 @ Western Loop Peak hour turning movements (3-6pm)
Weather: Clear

	Summary By Movements								Entering Volumes		
Time of Day	N-E	N-W	E-N	E-W	W-N	W-E		TOTAL	North	East	West
15:00	1	0	0	86	0	69		156	1	86	69
15:15	0	2	0	105	0	62		169	2	105	62
15:30	0	1	0	108	1	67		177	1	108	68
15:45	0	0	1	118	0	67		186	0	119	67
16:00	0	1	1	130	1	62		195	1	131	63
16:15	0	1	0	102	0	82		185	1	102	82
16:30	0	0	0	112	1	94		207	0	112	95
16:45	0	0	0	127	0	96		223	0	127	96
17:00	0	0	0	112	0	109		221	0	112	109
17:15	0	0	0	102	0	109		211	0	102	109
17:30	0	0	0	83	2	76		161	0	83	78
17:45	0	0	0	89	0	77		166	0	89	77
Total Count	1	5	2	1274	5	970		2257	6	1276	975
24hr Factor	1	1	1	1	1	1		1	1	1	1
24hr Volume	1	5	2	1274	5	970		2257	6	1276	975

Summary of Traffic Count
Transportation Development Division

Site: 21032012
County: Lincoln
City: RURAL
Milepoint: 5.60
Count Number: 1.00

Date: 6/12/2012
Hours: 6:00 AM-10:00 PM
Highway #: 033
Location: US 20 at Business Loop 20 West (Toledo Frontage Rd)
Weather: Clear;Rain

	Summary By Movements								Entering Volumes		
Time of Day	E-S	E-W	S-E	S-W	W-E	W-S		TOTAL	East	South	West
6:00	0	163	1	135	79	77		455	163	136	156
6:15	0	0	0	0	0	0		0	0	0	0
6:30	0	0	0	0	0	0		0	0	0	0
6:45	0	0	0	0	0	0		0	0	0	0
7:00	0	46	0	44	31	16		137	46	44	47
7:15	0	99	0	64	30	26		219	99	64	56
7:30	0	109	1	58	35	20		223	109	59	55
7:45	0	136	1	56	51	51		295	136	57	102
8:00	0	101	1	68	45	40		255	101	69	85
8:15	0	75	0	51	51	24		201	75	51	75
8:30	0	87	0	50	49	27		213	87	50	76
8:45	1	59	0	31	39	21		151	60	31	60
9:00	0	211	2	173	191	122		699	211	175	313
9:15	0	0	0	0	0	0		0	0	0	0
9:30	0	0	0	0	0	0		0	0	0	0
9:45	0	0	0	0	0	0		0	0	0	0
10:00	0	258	2	195	182	131		768	258	197	313
10:15	0	0	0	0	0	0		0	0	0	0
10:30	0	0	0	0	0	0		0	0	0	0
10:45	0	0	0	0	0	0		0	0	0	0
11:00	0	206	1	181	207	171		766	206	182	378
11:15	0	0	0	0	0	0		0	0	0	0
11:30	0	0	0	0	0	0		0	0	0	0
11:45	0	0	0	0	0	0		0	0	0	0
12:00	1	257	5	179	207	183		832	258	184	390
12:15	0	0	0	0	0	0		0	0	0	0
12:30	0	0	0	0	0	0		0	0	0	0
12:45	0	0	0	0	0	0		0	0	0	0
13:00	3	202	4	151	240	188		788	205	155	428
13:15	0	0	0	0	0	0		0	0	0	0
13:30	0	0	0	0	0	0		0	0	0	0
13:45	0	0	0	0	0	0		0	0	0	0
14:00	0	250	5	179	233	174		841	250	184	407
14:15	0	0	0	0	0	0		0	0	0	0

Summary of Traffic Count
Transportation Development Division

Site: 21032012
County: Lincoln
City: RURAL
Milepoint: 5.60
Count Number: 1.00

Date: 6/12/2012
Hours: 6:00 AM-10:00 PM
Highway #: 033
Location: US 20 at Business Loop 20 West (Toledo Frontage Rd)
Weather: Clear;Rain

	Summary By Movements								Entering Volumes		
Time of Day	E-S	E-W	S-E	S-W	W-E	W-S		TOTAL	East	South	West
14:30	0	0	0	0	0	0		0	0	0	0
14:45	0	0	0	0	0	0		0	0	0	0
15:00	0	41	6	48	51	68		214	41	54	119
15:15	2	58	5	51	63	59		238	60	56	122
15:30	0	51	4	56	66	60		237	51	60	126
15:45	0	62	1	56	67	54		240	62	57	121
16:00	0	86	0	44	62	71		263	86	44	133
16:15	0	50	0	52	83	56		241	50	52	139
16:30	0	68	1	43	94	80		286	68	44	174
16:45	0	68	0	58	96	81		303	68	58	177
17:00	0	67	2	52	108	51		280	67	54	159
17:15	0	62	1	40	110	93		306	62	41	203
17:30	0	50	1	32	76	82		241	50	33	158
17:45	0	52	0	36	78	66		232	52	36	144
18:00	1	163	1	107	207	191		670	164	108	398
18:15	0	0	0	0	0	0		0	0	0	0
18:30	0	0	0	0	0	0		0	0	0	0
18:45	0	0	0	0	0	0		0	0	0	0
19:00	0	95	0	51	131	95		372	95	51	226
19:15	0	0	0	0	0	0		0	0	0	0
19:30	0	0	0	0	0	0		0	0	0	0
19:45	0	0	0	0	0	0		0	0	0	0
20:00	0	101	1	55	106	109		372	101	56	215
20:15	0	0	0	0	0	0		0	0	0	0
20:30	0	0	0	0	0	0		0	0	0	0
20:45	0	0	0	0	0	0		0	0	0	0
21:00	0	72	1	36	70	55		234	72	37	125
21:15	0	0	0	0	0	0		0	0	0	0
21:30	0	0	0	0	0	0		0	0	0	0
21:45	0	0	0	0	0	0		0	0	0	0
Total Count	8	3405	47	2432	3138	2542		11572	3413	2479	5680
24hr Factor	1.1	1.1	1.1	1.1	1.1	1.1		1.1	1.1	1.1	1.1
24hr Volume	9	3746	52	2676	3452	2797		12730	3755	2727	6248

Summary of Traffic Count
Transportation Development Division

Site: 21189
County: Lincoln
City: Toledo

Milepoint: 13.27
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/13/2012 8:30 AM
Highway #: 2302
Location: On Yaquina Bay Rd, 0.02 mile south of US20 Business (south of sidewalk terminus)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
0:00	1	0		1	1	0
0:15	0	1		1	0	1
0:30	0	0		0	0	0
0:45	0	1		1	0	1
1:00	1	2		3	1	2
1:15	0	0		0	0	0
1:30	0	0		0	0	0
1:45	1	0		1	1	0
2:00	1	0		1	1	0
2:15	1	0		1	1	0
2:30	1	0		1	1	0
2:45	1	0		1	1	0
3:00	0	3		3	0	3
3:15	0	2		2	0	2
3:30	4	2		6	4	2
3:45	3	2		4	3	2
4:00	2	0		2	2	0
4:15	2	2		4	2	2
4:30	4	3		6	4	3
4:45	1	1		2	1	1
5:00	4	5		9	4	5
5:15	5	5		10	5	5
5:30	4	3		7	4	3
5:45	6	8		13	6	8
6:00	6	2		8	6	2
6:15	3	3		6	3	3
6:30	9	11		20	9	11
6:45	7	11		18	7	11
7:00	12	5		16	12	5
7:15	13	13		25	13	13
7:30	16	12		28	16	12
7:45	14	12		26	14	12
8:00	15	12		26	15	12
8:15	15	10		24	15	10
8:30	13	10		22	13	10
8:45	11	10		21	11	10
9:00	12	10		21	12	10
9:15	13	12		24	13	12
9:30	13	6		19	13	6
9:45	9	8		17	9	8
10:00	12	15		27	12	15
10:15	13	6		19	13	6
10:30	16	15		30	16	15
10:45	13	12		24	13	12
11:00	10	19		28	10	19
11:15	14	12		25	14	12
11:30	17	12		29	17	12
11:45	7	10		17	7	10
12:00	15	15		30	15	15
12:15	11	8		19	11	8

Summary of Traffic Count
Transportation Development Division

Site: 21189
County: Lincoln
City: Toledo

Milepoint: 13.27
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/13/2012 8:30 AM
Highway #: 2302
Location: On Yaquina Bay Rd, 0.02 mile south of US20 Business (south of sidewalk terminus)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
12:30	12	10		22	12	10
12:45	13	15		27	13	15
13:00	9	12		21	9	12
13:15	14	10		23	14	10
13:30	11	15		26	11	15
13:45	12	12		23	12	12
14:00	13	22		35	13	22
14:15	15	17		31	15	17
14:30	17	8		24	17	8
14:45	11	15		26	11	15
15:00	10	15		25	10	15
15:15	20	14		33	20	14
15:30	16	15		31	16	15
15:45	14	14		28	14	14
16:00	11	13		24	11	13
16:15	16	15		31	16	15
16:30	12	15		27	12	15
16:45	16	17		32	16	17
17:00	16	13		28	16	13
17:15	19	14		33	19	14
17:30	11	14		25	11	14
17:45	11	14		25	11	14
18:00	8	11		19	8	11
18:15	10	10		19	10	10
18:30	11	12		22	11	12
18:45	6	10		16	6	10
19:00	3	8		10	3	8
19:15	7	5		12	7	5
19:30	6	4		10	6	4
19:45	5	7		11	5	7
20:00	2	3		5	2	3
20:15	4	3		7	4	3
20:30	3	6		9	3	6
20:45	1	3		4	1	3
21:00	2	2		4	2	2
21:15	2	3		5	2	3
21:30	3	2		4	3	2
21:45	1	2		3	1	2
22:00	3	2		5	3	2
22:15	0	3		3	0	3
22:30	1	0		1	1	0
22:45	3	0		3	3	0
23:00	0	2		2	0	2
23:15	0	1		1	0	1
23:30	1	1		2	1	1
23:45	0	0		0	0	0
Total Count	705	697		1402	705	696.5
24hr Factor	1	1		1	1	1
24hr Volume	705	697		1402	705	697

Summary of Traffic Count
Transportation Development Division

Site: 21042012
County: Lincoln
City: Toledo

Date: 6/12/2012
Hours: 3:00 PM-6:00 PM
Highway #: 8669

Toledo Frontage Rd (US20 Bus) @ NW A Street
Peak hour turning movement count
Location: (3 - 6 pm)
Weather: Clear

Milepoint: 6.79
Count Number: 1.00

	Summary By Movements														Entering Volumes			
Time of Day	N-SE	N-S	N-NW	SE-N	SE-S	SE-NW	S-N	S-SE	S-NW	NW-N	NW-SE	NW-S		TOTAL	North	South-East	South	North-West
15:00	7	4	1	8	2	35	2	0	40	13	50	17		179	12	45	42	80
15:15	3	2	11	5	2	39	4	3	30	15	44	17		175	16	46	37	76
15:30	5	3	5	7	0	43	6	0	55	15	57	26		222	13	50	61	98
15:45	2	2	11	3	4	30	6	1	28	16	54	16		173	15	37	35	86
16:00	4	3	9	7	1	41	4	1	34	14	49	24		191	16	49	39	87
16:15	8	3	15	3	1	35	6	0	22	10	55	17		175	26	39	28	82
16:30	2	2	14	8	0	40	7	1	35	16	52	23		200	18	48	43	91
16:45	3	2	10	4	2	32	2	1	27	12	58	28		181	15	38	30	98
17:00	6	3	11	10	1	39	8	0	24	14	57	20		193	20	50	32	91
17:15	6	2	8	6	1	28	4	1	23	22	76	22		199	16	35	28	120
17:30	4	1	7	9	1	28	5	0	15	15	43	18		146	12	38	20	76
17:45	2	3	7	4	1	29	0	1	9	8	47	16		127	12	34	10	71
Total Count	52	30	109	74	16	419	54	9	342	170	642	244		2161	191	509	405	1056
24hr Factor	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1
24hr Volume	52	30	109	74	16	419	54	9	342	170	642	244		2161	191	509	405	1056

Summary of Traffic Count
Transportation Development Division

Site: 21052012
County: Lincoln
City: Toledo

Milepoint: 6.93
Count Number: 1.00

Date: 6/12/2012
Hours: 3:00 PM-6:00 PM
Highway #: 8669
Toledo Frontage Rd (US20 Bus) @ Main St & 3rd St.
Location: 3 hour peak movement (3-6pm)
Weather: Clear

	Summary By Movements																						Entering Volumes				
Time of Day	N-E	N-SE	N-S	N-NW	E-N	E-SE	E-S	E-NW	SE-N	SE-E	SE-S	SE-NW	S-N	S-E	S-SE	S-NW	NW-N	NW-E	NW-SE	NW-S		TOTAL	North	East	South-East	South	North-West
15:00	0	0	1	1	0	0	1	0	0	0	5	28	1	1	4	6	2	0	37	19		106	2	1	33	12	58
15:15	0	1	0	0	0	1	0	4	0	0	0	35	1	0	3	9	2	0	47	7		110	1	5	35	13	56
15:30	1	0	0	1	0	0	0	1	0	0	5	48	0	0	6	4	1	1	49	11		128	2	1	53	10	62
15:45	0	0	0	1	0	0	0	1	0	0	8	31	0	0	4	4	1	0	50	6		106	1	1	39	8	57
16:00	0	0	0	0	0	0	0	0	0	0	2	43	0	0	6	7	0	0	43	15		116	0	0	45	13	58
16:15	0	0	2	0	0	0	0	0	0	0	3	33	0	0	2	6	1	0	49	12		108	2	0	36	8	62
16:30	0	0	0	3	0	0	2	0	0	0	2	30	1	1	4	12	3	0	45	9		112	3	2	32	18	57
16:45	2	0	0	0	0	0	0	2	1	0	3	37	0	1	4	5	2	2	60	7		126	2	2	41	10	71
17:00	0	0	0	1	0	0	0	1	0	0	3	29	0	2	3	12	3	0	56	8		118	1	1	32	17	67
17:15	2	1	0	0	0	0	0	2	0	0	4	30	0	0	3	5	3	2	70	11		133	3	2	34	8	86
17:30	1	0	0	1	0	0	0	1	1	0	5	24	3	0	3	9	0	1	41	9		99	2	1	30	15	51
17:45	0	1	1	1	0	0	0	1	1	0	3	32	0	0	5	3	0	0	43	6		97	3	1	36	8	49
Total Count	6	3	4	9	0	1	3	13	3	0	43	400	6	5	47	82	18	6	590	120		1359	22	17	446	140	734
24hr Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1
24hr Volume	6	3	4	9	0	1	3	13	3	0	43	400	6	5	47	82	18	6	590	120		1359	22	17	446	140	734

Summary of Traffic Count
Transportation Development Division

Site: 21062012
County: Lincoln
City: Toledo

Milepoint: 7.46
Count Number: 1.00

Date: 6/11/2012
Hours: 3:00 PM-6:00 PM
Highway #: 8669
(US20 Bus) @ East Slope
Location: Rd
Weather: Clear

	Summary By Movements								Entering Volumes		
Time of Day	N-E	N-S	E-N	E-S	S-N	S-E		TOTAL	North	East	South
15:00	4	16	9	18	21	9		77	20	27	30
15:15	4	38	5	4	29	14		94	42	9	43
15:30	3	18	6	11	23	19		80	21	17	42
15:45	5	18	4	1	18	12		58	23	5	30
16:00	8	15	6	4	18	13		64	23	10	31
16:15	1	14	3	9	16	15		58	15	12	31
16:30	6	16	7	5	20	9		63	22	12	29
16:45	6	13	5	7	22	11		64	19	12	33
17:00	3	14	1	5	25	12		60	17	6	37
17:15	6	15	4	4	26	14		69	21	8	40
17:30	7	18	6	5	23	9		68	25	11	32
17:45	7	14	7	10	14	16		68	21	17	30
Total Count	60	209	63	83	255	153		823	269	146	408
24hr Factor	1	1	1	1	1	1		1	1	1	1
24hr Volume	60	209	63	83	255	153		823	269	146	408

Summary of Traffic Count
Transportation Development Division

Site: 21190
County: Lincoln
City: Toledo

Milepoint: 1.56
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/13/2012 9:30 AM
Highway #: 2317
Location: On NE Burgess Rd, 0.02 mile northwest of US20 Business (Toledo Frontage Rd)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
0:00	1	0		1	1	0
0:15	0	0		0	0	0
0:30	0	0		0	0	0
0:45	1	0		1	1	0
1:00	0	0		0	0	0
1:15	0	0		0	0	0
1:30	0	1		1	0	1
1:45	1	1		1	1	1
2:00	0	0		0	0	0
2:15	0	0		0	0	0
2:30	0	0		0	0	0
2:45	0	0		0	0	0
3:00	0	0		0	0	0
3:15	1	0		1	1	0
3:30	0	0		0	0	0
3:45	0	1		1	0	1
4:00	1	0		1	1	0
4:15	1	0		1	1	0
4:30	0	0		0	0	0
4:45	0	1		1	0	1
5:00	0	2		2	0	2
5:15	2	2		3	2	2
5:30	1	0		1	1	0
5:45	4	1		5	4	1
6:00	3	3		6	3	3
6:15	2	1		2	2	1
6:30	2	4		5	2	4
6:45	6	5		11	6	5
7:00	5	9		14	5	9
7:15	4	8		12	4	8
7:30	6	21		26	6	21
7:45	18	17		35	18	17
8:00	21	32		53	21	32
8:15	12	23		34	12	23
8:30	11	9		20	11	9
8:45	6	8		14	6	8
9:00	5	7		12	5	7
9:15	5	4		9	5	4
9:30	5	4		8	5	4
9:45	5	3		8	5	3
10:00	7	4		11	7	4
10:15	3	3		6	3	3
10:30	7	5		12	7	5
10:45	3	9		12	3	9
11:00	6	8		14	6	8
11:15	5	8		12	5	8
11:30	8	7		15	8	7
11:45	6	10		16	6	10
12:00	6	4		10	6	4
12:15	11	6		17	11	6

Summary of Traffic Count
Transportation Development Division

Site: 21190
County: Lincoln
City: Toledo

Milepoint: 1.56
Count Number: 1.00

Date: 6/11/2012-6/13/2012
Hours: 6/13/2012 9:30 AM
Highway #: 2317
Location: On NE Burgess Rd, 0.02 mile northwest of US20 Business (Toledo Frontage Rd)
Weather: Rain

	Summary By Movements				Entering	
Time of Day	N-S	S-N		TOTAL	North	South
12:30	7	8		15	7	8
12:45	6	3		9	6	3
13:00	7	10		17	7	10
13:15	9	7		16	9	7
13:30	5	7		12	5	7
13:45	9	9		17	9	9
14:00	10	7		17	10	7
14:15	15	6		21	15	6
14:30	4	7		10	4	7
14:45	6	10		16	6	10
15:00	16	20		36	16	20
15:15	23	14		37	23	14
15:30	14	13		27	14	13
15:45	9	8		17	9	8
16:00	7	10		17	7	10
16:15	11	10		21	11	10
16:30	7	8		15	7	8
16:45	8	8		16	8	8
17:00	11	12		23	11	12
17:15	18	10		28	18	10
17:30	10	8		18	10	8
17:45	10	5		15	10	5
18:00	5	9		14	5	9
18:15	4	7		11	4	7
18:30	5	8		13	5	8
18:45	6	5		11	6	5
19:00	6	5		11	6	5
19:15	5	6		11	5	6
19:30	3	4		7	3	4
19:45	3	3		6	3	3
20:00	4	6		10	4	6
20:15	4	4		7	4	4
20:30	5	3		8	5	3
20:45	1	3		4	1	3
21:00	4	2		6	4	2
21:15	1	2		3	1	2
21:30	3	2		5	3	2
21:45	2	2		4	2	2
22:00	1	1		2	1	1
22:15	0	2		2	0	2
22:30	3	2		5	3	2
22:45	1	1		2	1	1
23:00	1	1		1	1	1
23:15	0	1		1	0	1
23:30	0	2		2	0	2
23:45	1	1		2	1	1
Total Count	463	498		961	463	497.5
24hr Factor	1	1		1	1	1
24hr Volume	463	498		961	463	498

Summary of Traffic Count
Transportation Development Division

Site: 21072012
County: Lincoln
City: Toledo

Milepoint: 8.21
Count Number: 1.00

Date: 6/13/2012
Hours: 3:00 PM-6:00 PM
Highway #: 8669 (US20 Bus) @ NE
Location: Sturdevant Rd
Weather: Clear

Time of Day	Summary By Movements								Entering Volumes		
	NE-SE	NE-SW	SE-NE	SE-SW	SW-NE	SW-SE		TOTAL	North-East	South-East	South-West
15:00	7	6	16	10	8	8		55	13	26	16
15:15	9	9	27	19	7	11		82	18	46	18
15:30	9	9	16	15	19	6		74	18	31	25
15:45	5	5	12	3	14	2		41	10	15	16
16:00	7	7	13	5	10	2		44	14	18	12
16:15	14	15	14	6	17	2		68	29	20	19
16:30	8	5	7	6	14	2		42	13	13	16
16:45	9	14	10	2	12	0		47	23	12	12
17:00	9	9	11	11	17	2		59	18	22	19
17:15	7	8	6	1	19	3		44	15	7	22
17:30	10	12	12	1	9	2		46	22	13	11
17:45	11	11	4	1	6	1		34	22	5	7
Total Count	105	110	148	80	152	41		636	215	228	193
24hr Factor	1	1	1	1	1	1		1	1	1	1
24hr Volume	105	110	148	80	152	41		636	215	228	193

Attachment F

City of Toledo TSP – Methods and Assumptions Technical Memorandum

City of Toledo TSP – Methods and Assumptions

PREPARED FOR: David Helton/ODOT

PREPARED BY: Andra Henriques/CH2M HILL

CC: Adam Denlinger/City of Toledo
Terra Lingley/CH2M HILL

DATE: August 29, 2012

This memorandum outlines the traffic analysis and evaluation framework that will be used in the City of Toledo Transportation System Plan. Its intent is to state the key assumptions and methodologies that will be used as part of the study's traffic analysis. The analysis years, study area limits, travel demand forecasting and modeling methodologies, safety analysis methods, and operational parameters will all be discussed in this memo.

I. Analysis Years & Time Periods

Transportation analysis will be conducted for the following years:

- Existing Year (2012)
- Design Year (2035)

The traffic analysis will be conducted for the 30th highest hour volume. An overall study area peak hour will be determined by two 16-hour intersection turning movement counts located on US 20 and numerous other counts taken throughout the City. The counts will be collected by Oregon Department of Transportation (ODOT) as a part of this study.

II. Traffic Study Area Limits

The project study area consists of the area within the City of Toledo's Urban Growth Boundary. The 11 traffic study intersections are focused on US 20 and Business Loop 20.

US 20 is under ODOT jurisdiction and is also known at the Corvallis-Newport Highway, Number 33. This segment of US 20 is a Statewide Highway on the National Highway System, as well as a state designated Freight Route. US 20 is classified as a principal arterial.

Business Loop 20 connects Toledo to US 20. The City has jurisdiction of Business Loop 20, which was formerly a state facility. It is an important freight route for trucks serving businesses in Toledo, but is not a part of the state or federal truck route classification system. Business Loop 20 is classified as a minor arterial.

Figure 1 shows the location of each of the study intersections. Table 1 lists the location of each intersection with mile point on US 20, where applicable.

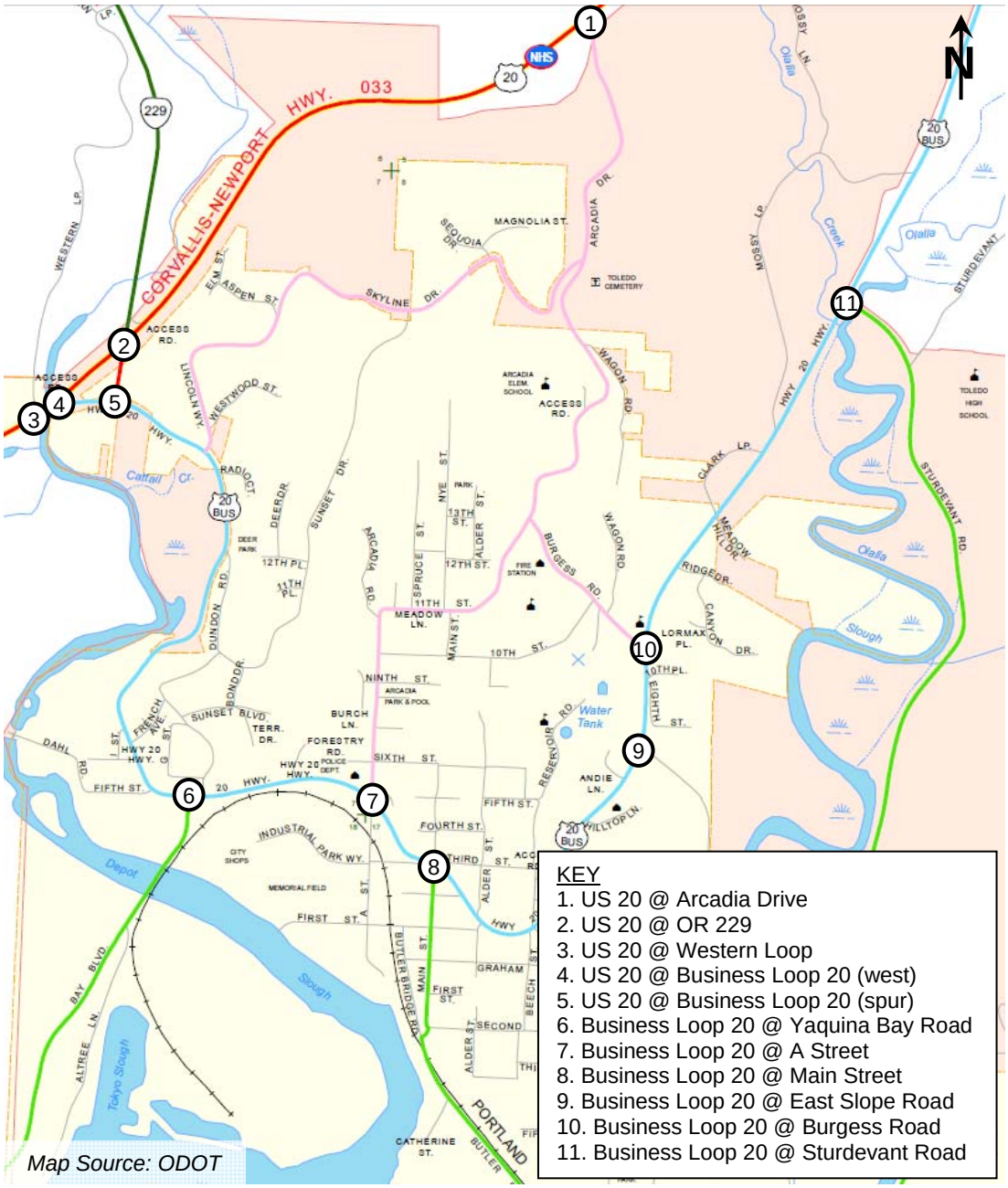


Figure 1. Toledo TSP Traffic Study Intersections

TABLE 1
Toledo TSP – Traffic Study Intersections

ID #	Intersection	Traffic Control	US 20 Mile Point	Jurisdiction	Count Type
1	US 20 @ Arcadia Drive	Stop Controlled	6.64	ODOT	Tube on Arcadia Drive
2	US 20 @ OR 229	Stop Controlled	5.74/5.78	ODOT	16-hour turning movement
3	US 20 @ Western Loop	Stop Controlled	5.56/5.58	ODOT	Peak hour turning movement (3-6pm)
4	US 20 @ Business Loop 20 (west)	Stop Controlled	5.59/5.62	ODOT	16-hour turning movement
5	US 20 @ Business Loop 20 (spur)	Stop Controlled	N/A	ODOT	Use surrounding counts
6	Business Loop 20 @ Yaquina Bay Road	Stop Controlled	N/A	City	Tube on Yaquina Bay Road
7	Business Loop 20 @ A Street	Traffic Signal	N/A	City	Peak hour turning movement (3-6pm)
8	Business Loop 20 @ Main Street	Stop Controlled	N/A	City	Peak hour turning movement (3-6pm)
9	Business Loop 20 @ East Slope Road	Stop Controlled	N/A	City	Peak hour turning movement (3-6pm)
10	Business Loop 20 @ Burgess Road	Stop Controlled	N/A	City	Tube on Burgess Road
11	Business Loop 20 @ Sturdevant Road	Stop Controlled	N/A	City	Peak hour turning movement (3-6pm)

Notes:
Intersections with more than one mile point have split legs intersecting the highway at different locations.

Table 1 shows the type of counts that will be collected at each intersection. There are three t-intersections where tube counts will be collected on the minor leg instead of a full turning movement count. Turning movements will be determined by the tube count and the nearby counts. The turning movements at US 20 and Business Loop 20 (spur) will be determined by the nearby counts and the assumption that any vehicle leaving the highway is not going to get immediately back on.

III. Existing and Future Traffic Volumes

A variety of count types will be collected over a period of time for each of the study area intersections (see Table 1 for specific count type at a given intersection). After deciphering the overall existing count peak hour, an adjustment will be made for the seasonal effects according to ODOT Transportation Planning Analysis Unit (TPAU) *Analysis Procedures Manual*. For consistency, any adjustments to the volumes will be made at all intersections, even those off US 20. There are no Automatic Traffic Recorder (ATR) sites within, or close to, the study area; therefore, the ATR Characteristic Table method will be used to develop the 30th highest peak hour traffic volumes.

The 2011 ATR Characteristic Table is used to find an ATR with similar characteristics to the study area. The table resulted in ATR station 06-004, as shown in Table 2, located on US 101 just outside Bandon City Limits.

TABLE 2
Toledo TSP – 2011 ATR Characteristic Table

Categories	Characteristics
Seasonal Traffic Trend	Costal Destination
Area Type	Rural Populated
# of Lanes	2
Weekly Traffic Trend	Weekday
AADT	6300
OHP Classification	Statewide Highway
ATR	06-004
County	Coos
Highway Route, Name, & Location	US 101, Oregon Coast Hwy, 1.02 miles south of 18th S.W. Street
MP	275.87
State Highway Number	9

Source:
http://www.oregon.gov/ODOT/TD/TP/docs/tools/atr.xls

The derived 30th highest hour design volumes will be balanced between adjacent study intersections, as outlined by ODOT standards. The existing conditions analysis will be conducted using the 30th highest hour volumes. The study will assign one peak hour for use in the traffic analysis.

IV. Forecasting/Modeling Methodology

Travel demand forecasts for study intersections in the Toledo TSP will be determined by analyzing the ODOT Future Volume Tables. The latest tables provide 2009 traffic volumes on US 20 within the study area, forecast traffic volumes for the year 2030, and a statistical descriptor (R-squared value) that provides the reliability of the forecast for all state highways. Consistent with ODOT guidelines, growth rates for future forecasts will be developed using Future Volume Table estimates with R-squared values above 0.75 for the 23-year planning period. The 23-year growth factor of 1.53, calculated in Table 3, will be applied to the balanced 2012 30th highest hour volumes which will then be balanced again to get the 2035 future volumes.

Based on the scope of work, up to 20 proposed roadway improvements will be developed and tested as part of this project.

TABLE 3
Toledo TSP – Annual Growth Rate on US 20

Milepost	2009 ADT	2030 ADT	R-Squared	Overall Factor	1-year growth
5.61	7,000	10,900	0.7763	1.56	2.65%
5.80	6,100	8,600	0.8914	1.41	1.95 %
				US 20 Average Annual Rate	2.30%
				US 20, 23-Year Factor (2012 to 2035)	1.53

Notes:
Source: ODOT 2027 Highway Future Volume Table https://services.oregon.gov/ODOT/TD/TP/docs/tools/fvtable.pdf
The available growth rates are only projected to year 2030; this study assumed the AAGR to continue at the same rate through year 2035.

V. State, Regional, and Local Mobility Targets and Standards

State highway mobility targets were developed for the 1999 Oregon Highway Plan (OHP) as a method to gauge reasonable and consistent standards for traffic flow along state highways. These mobility targets consider the classification (e.g., freeway, regional, district) and location (rural, urban) of each state highway. Mobility targets are based on volume to capacity (V/C) ratios. The 1999 OHP, with amendments adopted by the Oregon Transportation Commission on December 21, 2011, will be used in this study.

Table 4 shows the OHP mobility targets and HDM mobility standards for each highway traffic study area. The targets and standards will be applied to the study intersections along US 20 as shown in the table. The intersection mobility requirement is based on its traffic control. For signalized intersections, the intersection V/C ratio is reported, while for unsignalized intersections, the highest value for major movement and the minor street movement is reported. All the intersections in Table 4 are currently unsignalized. Table 4 will be used to identify mobility requirements in the existing and future conditions analysis.

The remaining intersections are under City jurisdiction. The City's existing and future mobility standards will be developed during the TSP process and presented in future memorandums.

TABLE 4

Toledo TSP – Highway Mobility Targets and Standards

ID #	Intersection	Mile Point	US 20 OHP Highway Classification	Mobility Category	Area	Speed	Existing or Future No-Build V/C Target[3]	Future Build V/C Std.[4]
1	US 20 @ Arcadia Drive	6.64	Statewide, NHS[1], FR[2]	FR on a Statewide Highway	Rural Lands	55	0.70/0.75*	0.60/0.70
2	US 20 @ OR 229	5.74/5.78	Statewide, NHS, FR	FR on a Statewide Highway	Non-MPO Outside of STA	45	0.80/0.90	0.70/0.75
3	US 20 @ Western Loop	5.56/5.58	Statewide, NHS, FR	FR on a Statewide Highway	Non-MPO Outside of STA	45	0.80/0.90	0.70/0.75
4	US 20 @ Business Loop 20 (west)	5.59/5.62	Statewide, NHS, FR	FR on a Statewide Highway	Non-MPO Outside of STA	45	0.80/0.90	0.70/0.75
5	US 20 @ Business Loop 20 (spur)	N/A	Statewide, NHS, FR	FR on a Statewide Highway	Non-MPO Outside of STA	35	0.85/0.95	0.70/0.80
6	Business Loop 20 @ Yaquina Bay Road	N/A	N/A	N/A	N/A	N/A	To be determined	
7	Business Loop 20 @ A Street	N/A	N/A	N/A	N/A	N/A	To be determined	
8	Business Loop 20 @ Main Street	N/A	N/A	N/A	N/A	N/A	To be determined	
9	Business Loop 20 @ East Slope Road	N/A	N/A	N/A	N/A	N/A	To be determined	
10	Business Loop 20 @ Burgess Road	N/A	N/A	N/A	N/A	N/A	To be determined	
11	Business Loop 20 @ Sturdevant Road	N/A	N/A	N/A	N/A	N/A	To be determined	

Notes:

[1] NHS – Nation Highway System

[2] FR – State Freight Route

[3] Existing and No-Build Mobility Source: Adopted Oregon Highway Plan as Adopted in December, 2011 (Table 6)

[4] Future Mobility Source: ODOT Highway Design Manual (Table 10-1)

* All targets and standards are written as *highway* / *minor approach*

VI. Traffic Analysis Software and Input Assumptions

Synchro software, version 7, will be used for the intersection analysis. The reported results will be the V/C ratios from the HCM report. The assumptions are listed in Table 5. Consultant will work with Region 2 Traffic for timing inputs. Simulation input will be based on TPAU's *Analysis Procedure Manual*.

TABLE 5

Toledo TSP – Synchro Operations Parameters/Assumptions

Arterial Intersection Parameters	Condition	
	Existing (2012)	**No-Build and Build Alternatives (2035)**
PHF (Peak Hour Factor)	From traffic count.	- 0.85 for side street approaches - 0.90 for State Highway Minor Arterials - 0.95 for State Highway Major Arterials If traffic count has higher PHFs than default PHFs, then continue using existing
Conflicting Bikes and Pedestrian per Hour	From traffic count, if not provided, assume 10 peds/bikes per approach	From Existing
Area Type	Default	From Existing
Ideal Saturation Flow Rate per Lane (for all movements)	1750	From Existing
Lane Width	From As-builts, field visit or ODOT website, otherwise 12 feet	From Existing
Percent Heavy Vehicles	From traffic count or ODOT website, otherwise 5%	From Existing
Percent Grade	From As-builts, ODOT website or field visit, otherwise 0%	From Existing
Parking Maneuvers per Hour	If on-street parking allowed, assume some maneuvers (approx. 1 maneuver per stall)	From Existing
Bus Blockages	From field visit, otherwise assume 0	From Existing
Intersection signal phasing and coordination	From field visit and signal timing plans	Optimize phase and cycle length, phase sequence and offset (if signals are coordinated)
Intersection signal timing optimization limits	N/A, only performed in future year analysis	60 to 120 seconds depending on the number of phases[1]
Minimum Green time	From signal timing plans	For existing signals, same as existing. If additional signal warranted, 10 seconds if no pedestrian time is required
Yellow and all-red time	From signal timing plans	For existing signals, same as existing. If additional signal warranted, (Y) = 4 seconds and (R) = 1 second
Right Turn on Red	From field visit	From existing conditions, if additional signal, then "allow"
Vehicle Queues	95th Percentile, calculated based on an average of 25 feet per vehicle. SimTraffic will be used for both signalized and unsignalized intersections (the average of at least 5 runs of 1 hour length with 15-min peak divided out)[2]	Same as Existing

[1]Assumptions consistent with the Analysis Procedures Manual.
[2]The simulation will be for one hour with the peak 15-minutes in the first 15 minutes. The results from this simulation will be applied to signalized and unsignalized intersections. Instructions provided by TPAU.

VII. Crash Analysis

A crash analysis will be conducted at the intersections that make up the US 20 and Business Loop 20 (west) junction. Data will be collected from ODOT for the five most recent years available at time of project start date. Analysis will include crash rates at both locations, but no roadway segment crash rates per scope specifications.

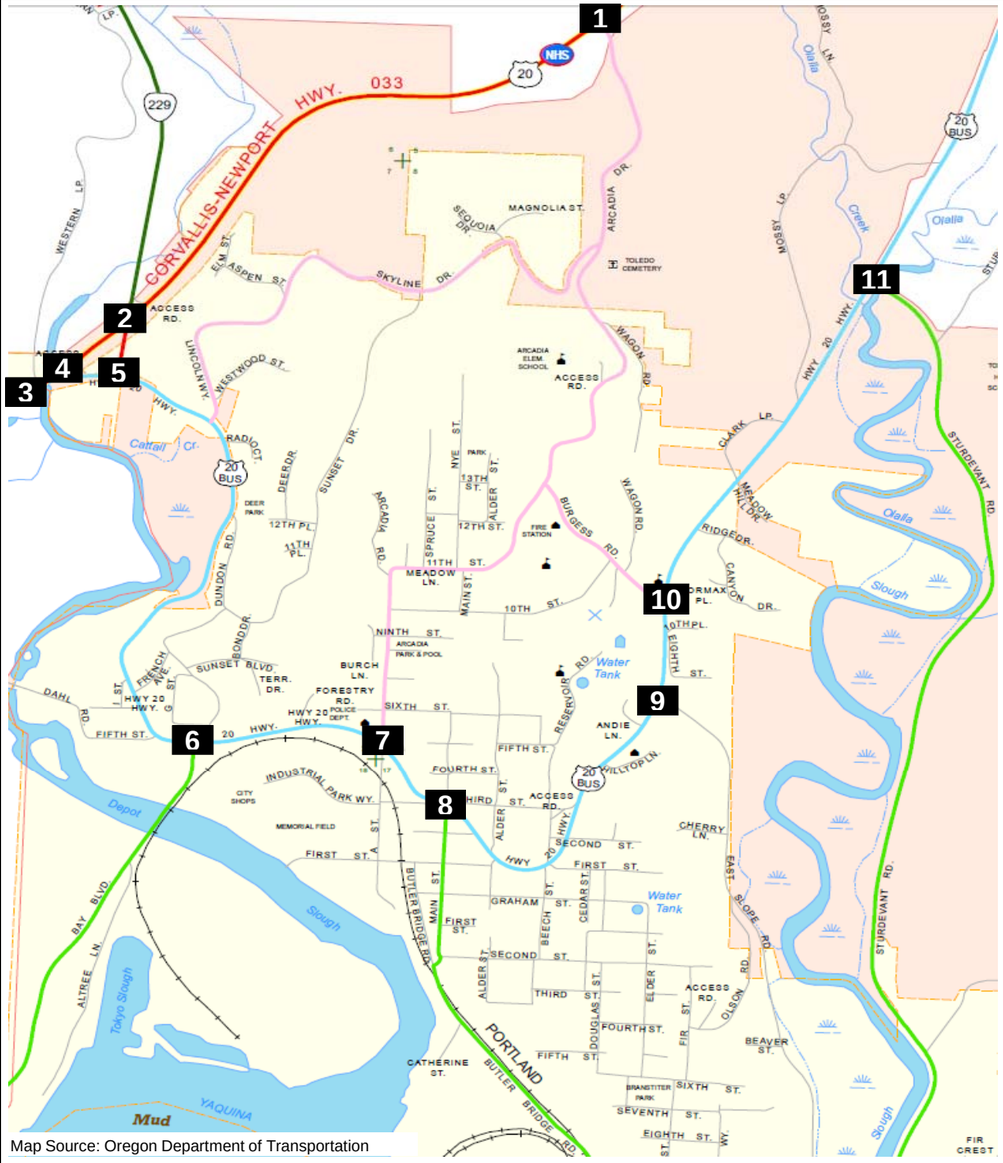
The future crash analysis will be qualitative in nature and will not include a quantitative future predictive analysis.

VIII. Parking Study

A parking study will be conducted as a part of the existing conditions analysis. An inventory will be made to document existing parking. Then, over the period of six hours on a typical weekday, the parking usage will be gathered once every hour. Results will be summarized in the existing conditions memorandum.

Attachment G

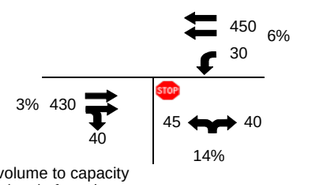
Figure G.1 – Toledo TSP: Future No-Build Conditions Operational Analysis Results



Map Source: Oregon Department of Transportation

1 US 20 & Arcadia Drive

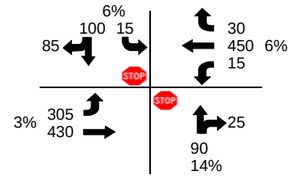
V/C* Ratio Std: 0.75
V/C Ratio: **0.24**
LOS Std: D
LOS: **C**



*V/C = volume to capacity
**LOS = level of service

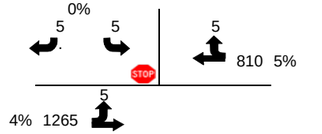
2 US 20 & OR 229

V/C Ratio Std: 0.90
V/C Ratio: **1.71**
LOS Std: D
LOS: **F**



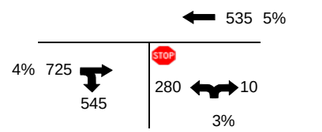
3 US 20 & Western Loop

V/C Ratio Std: 0.90
V/C Ratio: **0.50**
LOS Std: D
LOS: **E**



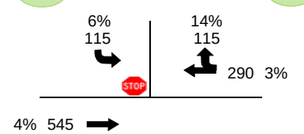
4 US 20 & Bus. Loop 20 (west)

V/C Ratio Std: 0.90
V/C Ratio: **>2**
LOS Std: D
LOS: **F**



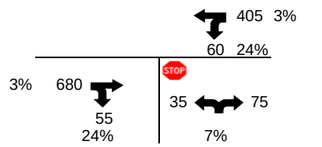
5 US 20 & Bus. Loop 20 (spur)

V/C Ratio Std: 0.95
V/C Ratio: **0.48**
LOS Std: D
LOS: **D**



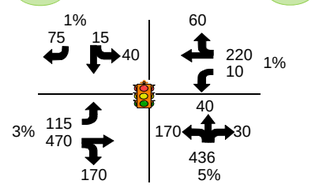
6 Bus. Loop 20 & Bay Boulevard

V/C Ratio Std: 0.85
V/C Ratio: **0.51**
LOS Std: D
LOS: **D**



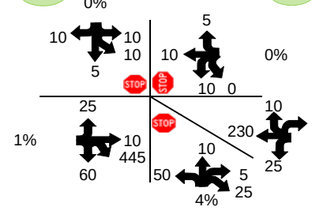
7 Bus. Loop 20 & A Street

V/C Ratio Std: 0.85
V/C Ratio: **0.79**
LOS Std: D
LOS: **C**



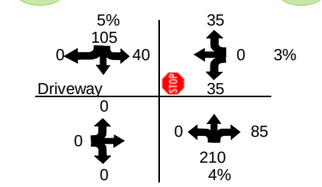
8 Bus. Loop 20 & Main Street

V/C Ratio Std: 0.85
V/C Ratio: **0.36**
LOS Std: D
LOS: **D**



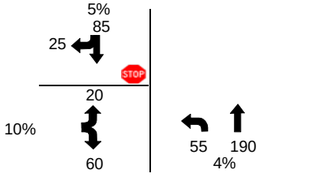
9 Bus. Loop 20 & East Slope Road

V/C Ratio Std: 0.85
V/C Ratio: **0.19**
LOS Std: D
LOS: **B**



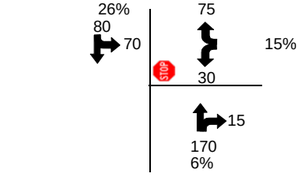
10 Bus. Loop 20 & Burgess Road

V/C Ratio Std: 0.85
V/C Ratio: **0.12**
LOS Std: D
LOS: **A**

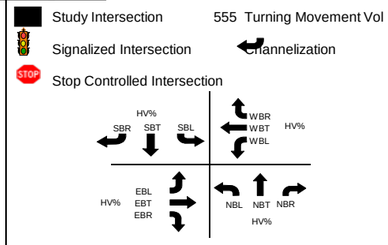


11 Bus. Loop 20 & Sturdevant Road

V/C Ratio Std: 0.85
V/C Ratio: **0.18**
LOS Std: D
LOS: **B**



Legend



CH2MHILL

FIGURE G.1 - Toledo TSP: Future No-Build Conditions Operational Analysis Results

2035 Balanced Volumes

Notes:
1. The System Peak hour is 4:30-5:30 PM, the 30th highest hour adjustment factor is 1.16 and the 23-year growth factor is 1.53
2. Truck Percentages are calculated from raw counts
3. "V/C Ratio Std" and "LOS Std" corresponds to the intersection's mobility standards
4. Mobility Standards are based on Oregon Highway Plan and the recommended City of Toledo standards
5. V/C and LOS reported for signalized intersection is the average for all approaches
6. V/C and LOS reported for unsignalized intersections is the highest approach
7. A green oval on the map represents an acceptable measured mobility
8. A red rectangle on the map represents a failing measured mobility
9. Synchro software version 7 was used for the analysis

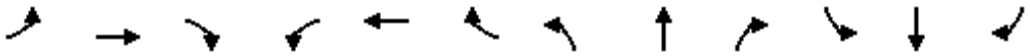
Attachment H

Synchro HCM Reports – Future No-Build

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	430	40	30	450	45	40
Sign Control	Free			Free	Stop	
Grade	0%			3%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	453	42	32	474	53	47
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			495		774	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			495		774	247
tC, single (s)			4.2		7.1	7.2
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			97		82	93
cM capacity (veh/h)			1038		302	717

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	302	193	32	237	237	100
Volume Left	0	0	32	0	0	53
Volume Right	0	42	0	0	0	47
cSH	1700	1700	1038	1700	1700	415
Volume to Capacity	0.18	0.11	0.03	0.14	0.14	0.24
Queue Length 95th (ft)	0	0	2	0	0	23
Control Delay (s)	0.0	0.0	8.6	0.0	0.0	16.4
Lane LOS			A			C
Approach Delay (s)	0.0		0.5			16.4
Approach LOS						C

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	305	430	0	15	450	0	0	90	25	0	100	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	321	453	0	16	474	0	0	100	28	0	111	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	474			453			1750	1600	453	1678	1600	474
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474			453			1750	1600	453	1678	1600	474
tC, single (s)	4.1			4.2			7.2	6.6	6.3	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	70			99			0	0	95	0	0	84
cM capacity (veh/h)	1083			1087			0	69	583	0	72	583

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	321	453	16	474	128	206
Volume Left	321	0	16	0	0	0
Volume Right	0	0	0	0	28	94
cSH	1083	1700	1087	1700	85	120
Volume to Capacity	0.30	0.27	0.01	0.28	1.50	1.71
Queue Length 95th (ft)	31	0	1	0	252	389
Control Delay (s)	9.7	0.0	8.4	0.0	360.9	413.1
Lane LOS	A		A		F	F
Approach Delay (s)	4.0		0.3		360.9	413.1
Approach LOS					F	F

Intersection Summary				
Average Delay	84.1			
Intersection Capacity Utilization	65.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	395	0	15	185	0	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	439	0	17	206	0	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			439		678	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			439		678	439
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			98		100	94
cM capacity (veh/h)			1100		405	610

Direction, Lane #	NB 1	SB 1	NW 1
Volume Total	439	222	35
Volume Left	0	17	0
Volume Right	0	0	35
cSH	1700	1100	610
Volume to Capacity	0.26	0.02	0.06
Queue Length 95th (ft)	0	1	5
Control Delay (s)	0.0	0.8	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	11.3
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (veh/h)	15	0	0	455	465	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	0	0	479	489	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	968	489	521			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	968	489	521			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	94	100	100			
cM capacity (veh/h)	277	579	1040			

Direction, Lane #	SE 1	NE 1	SW 1	SW 2
Volume Total	18	479	489	32
Volume Left	18	0	0	0
Volume Right	0	0	0	32
cSH	277	1700	1700	1700
Volume to Capacity	0.06	0.28	0.29	0.02
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	18.9	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	18.9	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	1265	810	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	5	1332	853	5	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	853				2197	855
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	853				2197	855
tC, single (s)	4.1				*6.3	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				89	98
cM capacity (veh/h)	778				53	361

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1337	858	12
Volume Left	5	0	6
Volume Right	0	5	6
cSH	778	1700	106
Volume to Capacity	0.01	0.50	0.11
Queue Length 95th (ft)	1	0	9
Control Delay (s)	0.3	0.0	48.3
Lane LOS	A		E
Approach Delay (s)	0.3	0.0	48.3
Approach LOS			E

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

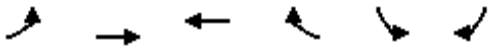
* User Entered Value

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	725	545	0	535	280	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	763	574	0	563	329	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1337		1613	1050
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1337		1613	1050
tC, single (s)			4.1		*5.9	*5.7
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	96
cM capacity (veh/h)			506		144	321

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1337	563	341
Volume Left	0	0	329
Volume Right	574	0	12
cSH	1700	1700	147
Volume to Capacity	0.79	0.33	2.32
Queue Length 95th (ft)	0	0	718
Control Delay (s)	0.0	0.0	662.7
Lane LOS			F
Approach Delay (s)	0.0	0.0	662.7
Approach LOS			F

Intersection Summary			
Average Delay	100.9		
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

* User Entered Value



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	545	290	115	115	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	606	322	128	128	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	450				992	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				992	386
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				52	100
cM capacity (veh/h)	1100				268	662

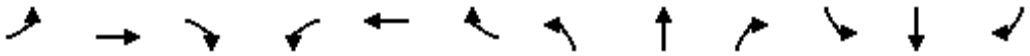
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	606	450	128
Volume Left	0	0	128
Volume Right	0	128	0
cSH	1700	1700	268
Volume to Capacity	0.36	0.26	0.48
Queue Length 95th (ft)	0	0	60
Control Delay (s)	0.0	0.0	30.1
Lane LOS			D
Approach Delay (s)	0.0	0.0	30.1
Approach LOS			D

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	680	55	60	405	35	75
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	756	61	67	450	41	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			817		1369	786
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			817		1369	786
tC, single (s)			4.3		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.4		3.6	3.4
p0 queue free %			91		72	77
cM capacity (veh/h)			723		143	384

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	817	67	450	128
Volume Left	0	67	0	41
Volume Right	61	0	0	87
cSH	1700	723	1700	250
Volume to Capacity	0.48	0.09	0.26	0.51
Queue Length 95th (ft)	0	8	0	67
Control Delay (s)	0.0	10.5	0.0	33.6
Lane LOS		B		D
Approach Delay (s)	0.0	1.4		33.6
Approach LOS				D

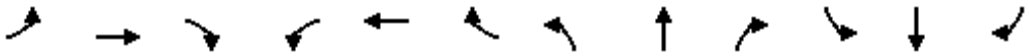
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	470	170	10	220	60	170	40	30	40	15	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	15	12	12	13	12	12	16	12	12	16	16
Grade (%)		0%			0%			10%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.98			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1614	1783		1646	1733			1697			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1614	1783		1646	1733			1697			1748	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.86	0.86	0.86
Adj. Flow (vph)	128	522	189	11	244	67	200	47	35	47	17	87
RTOR Reduction (vph)	0	13	0	0	10	0	0	6	0	0	58	0
Lane Group Flow (vph)	128	698	0	11	301	0	0	276	0	0	93	0
Confl. Peds. (#/hr)			2						4			6
Confl. Bikes (#/hr)					1				1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	5%	5%	5%	1%	1%	1%
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	9.1	35.6		0.7	27.2			16.2			9.4	
Effective Green, g (s)	9.1	35.6		0.7	27.2			16.2			9.4	
Actuated g/C Ratio	0.12	0.46		0.01	0.35			0.21			0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	189	815		15	605			353			211	
v/s Ratio Prot	c0.08	c0.39		0.01	0.17			c0.16			c0.05	
v/s Ratio Perm												
v/c Ratio	0.68	0.86		0.73	0.50			0.78			0.44	
Uniform Delay, d1	33.0	18.9		38.5	20.0			29.2			31.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	9.2	8.8		103.2	0.6			10.8			1.5	
Delay (s)	42.2	27.7		141.7	20.6			40.0			33.3	
Level of Service	D	C		F	C			D			C	
Approach Delay (s)		29.9			24.8			40.0			33.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	455	60	25	220	10	50	10	25	10	15	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	28	506	67	28	244	11	59	12	29	12	18	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		761										
pX, platoon unblocked				0.74			0.74	0.74	0.74	0.74	0.74	
vC, conflicting volume	256			572			932	906	539	935	933	250
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	256			251			736	700	206	740	737	250
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			73	95	95	95	93	97
cM capacity (veh/h)	1315			981			218	255	616	220	246	794

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	600	283	100	53
Volume Left	28	28	59	12
Volume Right	67	11	29	24
cSH	1315	981	275	342
Volume to Capacity	0.02	0.03	0.36	0.15
Queue Length 95th (ft)	2	2	40	14
Control Delay (s)	0.6	1.1	25.4	17.4
Lane LOS	A	A	D	C
Approach Delay (s)	0.6	1.1	25.4	17.4
Approach LOS			D	C

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	54.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	35	210	85	40	105
Sign Control	Stop		Free			Free
Grade	10%		0%			0%
Peak Hour Factor	0.85	0.85	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	41	41	233	94	44	117
Pedestrians	9		9			9
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	504	299			337	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504	299			337	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	94			96	
cM capacity (veh/h)	497	727			1197	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	82	328	161
Volume Left	41	0	44
Volume Right	41	94	0
cSH	590	1700	1197
Volume to Capacity	0.14	0.19	0.04
Queue Length 95th (ft)	12	0	3
Control Delay (s)	12.1	0.0	2.5
Lane LOS	B		A
Approach Delay (s)	12.1	0.0	2.5
Approach LOS	B		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	43.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	55	190	85	25	20	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	61	211	94	28	24	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	122				442	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	122				442	108
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	96				96	92
cM capacity (veh/h)	1453				535	924

Direction, Lane #	NB 1	NB 2	SB 1	SE 1
Volume Total	61	211	122	94
Volume Left	61	0	0	24
Volume Right	0	0	28	71
cSH	1453	1700	1700	782
Volume to Capacity	0.04	0.12	0.07	0.12
Queue Length 95th (ft)	3	0	0	10
Control Delay (s)	7.6	0.0	0.0	10.2
Lane LOS	A			B
Approach Delay (s)	1.7		0.0	10.2
Approach LOS				B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	30	75	170	15	70	80
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	35	88	189	17	78	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	442	197			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	442	197			189	
tC, single (s)	6.6	6.4			4.4	
tC, 2 stage (s)						
tF (s)	3.6	3.4			2.4	
p0 queue free %	93	89			94	
cM capacity (veh/h)	515	812			1253	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	124	206	167
Volume Left	35	0	78
Volume Right	88	17	0
cSH	697	1700	1253
Volume to Capacity	0.18	0.12	0.06
Queue Length 95th (ft)	16	0	5
Control Delay (s)	11.3	0.0	4.0
Lane LOS	B		A
Approach Delay (s)	11.3	0.0	4.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment I

Table I.1 – Toledo TSP: Future No-Build Queuing Analysis Results

TABLE I.1

Toledo TSP: Future No-Build Queuing Analysis Results

2035, 30th Highest Hour Volumes

ID	Intersection	Approach	Lane Group	Existing Storage (feet)	95th % Queue Length[a] (feet)
1	US 20 at Arcadia Drive	Eastbound	Thru/Right	-	-
		Westbound	Left	200	50[b]
			Thru	-	-
		Northbound	Left/Right	Unconstrained	140
2	US 20 at OR 229	**Eastbound**	**Left**	**130**	**140[c]**
			Thru	-	-
		Westbound	Left	320	20
			Thru	-	-
		Northbound	Thru/Right	365	230
		Southbound	Left	80	60
			Thru/Right	**Unconstrained**	**1950 (>1/3 mile)**
3	US 20 at Western Loop	Eastbound	Left/Thru	Unconstrained	70
		Westbound	Thru/Right	-	-
		Southbound	Left	Unconstrained	20
			Right	Unconstrained	10
4	US 20 at Business Loop 20 (west)	Eastbound	Thru/Right	-	-
		Westbound	Thru	-	-
		Northbound	**Left/Right**	**350**	**>1 ½ miles**
5	US 20 (spur) at Business Loop 20	Eastbound	Thru	-	-
		Westbound	**Thru/Right**	**Unconstrained**	**Same queue as above**
		Southbound	Left	365	90
6	Business Loop 20 @ Bay Boulevard	Eastbound	Thru/Right	-	-
		Westbound	**Left**	**90**	**100**
			Thru	-	-
		Northbound	Left/Right	Unconstrained	150
7	Business Loop 20 @ A Street	**Eastbound**	**Left**	**60**	**180**
			Thru/Right	**650**	**1040**
		Westbound	**Left**	**15**	**30**
			Thru/Right	700	210
		Northbound	**Left/Thru/Right**	**160 (to RR)**	**310**
		Southbound	Left/Thru/Right	330	100
8	Business Loop 20 @ Main Street[d]	Eastbound	Left/Thru/Right	700	80
		North-westbound	Left/Thru/Right	300	30
		Northbound	Left/Thru/Right	200	110
		Southbound	Left/Thru/Right	240	60
9	Business Loop 20 @ East Slope Road	Westbound	Left/Right	Unconstrained	70
		Northbound	Thru/Right	-	-
		Southbound	Left/Thru	Unconstrained	60
10	Business Loop 20 @ Burgess Road	Eastbound	Left/Right	Unconstrained	60
		Northbound	Left	50	50
			Thru	-	-
		Southbound	Thru/Right	-	-
11	Business Loop 20 @ Sturdevant Road	Westbound	Left/Right	Unconstrained	110
		Northbound	Thru/Right	-	-
		Southbound	Left/Thru	Unconstrained	60

[a] Queues are determined using SimTraffic software and calculated using an average of five, one hour simulation runs

[b] Queue lengths rounded up to the nearest 10 feet and not reported for free-flowing and uncontrolled movements

[c] Movements in black highlight indicate a vehicle queue length that exceeds the available storage length

[d] 3rd Street was not included in the traffic model, but queue is 30' according to the two-minute rule

Attachment J

SimTraffic Queuing Report – Future No-Build

Intersection: 1: US 20 & Arcadia Drive

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	10	46	174
Average Queue (ft)	0	14	61
95th Queue (ft)	5	41	131
Link Distance (ft)	560		917
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: US 20 & OR 229

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	TR
Maximum Queue (ft)	148	169	20	43	288	197
Average Queue (ft)	69	7	1	2	80	171
95th Queue (ft)	132	71	11	19	222	238
Link Distance (ft)		530		208	390	180
Upstream Blk Time (%)						60
Queuing Penalty (veh)						112
Storage Bay Dist (ft)	130		320			
Storage Blk Time (%)	1					
Queuing Penalty (veh)	5					

Intersection: 3: US 20 & Western Loop

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	142	28	4
Average Queue (ft)	8	5	0
95th Queue (ft)	65	19	3
Link Distance (ft)	8862	2050	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: US 20 (west) & Bus Loop 20

Movement	NB
Directions Served	LR
Maximum Queue (ft)	368
Average Queue (ft)	358
95th Queue (ft)	369
Link Distance (ft)	349
Upstream Blk Time (%)	76
Queuing Penalty (veh)	221
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Bus Loop 20 & US 20 (spur)

Movement	WB	B15	B16	SB
Directions Served	TR	T	T	L
Maximum Queue (ft)	636	3044	3237	115
Average Queue (ft)	579	2331	977	47
95th Queue (ft)	681	3967	3014	88
Link Distance (ft)	509	2920	7815	390
Upstream Blk Time (%)	85	47		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Channelized Turn & OR 229

Movement	WB	SB
Directions Served	R	LT
Maximum Queue (ft)	66	1010
Average Queue (ft)	22	621
95th Queue (ft)	53	1709
Link Distance (ft)	91	2863
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 200: Channelized Turn & US 20

Movement	EB
Directions Served	L
Maximum Queue (ft)	76
Average Queue (ft)	16
95th Queue (ft)	51
Link Distance (ft)	91
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 337

Intersection: 6: Bus Loop 20 & Yaquina Bay Road

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	104	109	126	189
Average Queue (ft)	10	40	4	71
95th Queue (ft)	95	94	76	146
Link Distance (ft)	560		1439	1788
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		90		
Storage Blk Time (%)		2		
Queuing Penalty (veh)		6		

Intersection: 7: Bus Loop 20 & A Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	174	1043	36	256	365	125
Average Queue (ft)	85	471	5	106	172	44
95th Queue (ft)	173	1033	22	206	307	94
Link Distance (ft)		1439		658	6015	3120
Upstream Blk Time (%)		1				
Queuing Penalty (veh)		5				
Storage Bay Dist (ft)	150		15			
Storage Blk Time (%)	1	25	8	32		
Queuing Penalty (veh)	7	29	22	3		

Intersection: 8: Bus Loop 20 & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	148	57	149	72
Average Queue (ft)	18	5	53	29
95th Queue (ft)	79	28	109	57
Link Distance (ft)	658	524	3275	305
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: East Slope Road & Bus Loop 20

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	92	51	85
Average Queue (ft)	37	4	12
95th Queue (ft)	66	27	51
Link Distance (ft)	1383	1114	765
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Bus Loop 20 & Burgess Road

Movement	NB	NB	SE
Directions Served	L	T	LR
Maximum Queue (ft)	67	54	82
Average Queue (ft)	9	4	23
95th Queue (ft)	44	33	60
Link Distance (ft)		765	1348
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	

Intersection: 11: Sturdevant Road & Bus Loop 20

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	115	5	102
Average Queue (ft)	58	0	16
95th Queue (ft)	106	4	60
Link Distance (ft)	2007	1886	2332
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 74

Attachment K

Crash Data

ODOT Crash Data Request

Crash Data Request

TO: Sylvia Vogel / ODOT

FROM: Andra Henriques / CH2M HILL

DATE: May 14, 2012

Dear Sylvia,

ODOT has contracted with CH2M HILL for the City of Toledo Transportation System Plan. To complete the traffic analysis for this project, I am requesting crash data from the ODOT Crash Analysis and Reporting Unit. The crash analysis study area includes four intersections that are in close proximity to each other, as shown in Figure 1. Since the intersections are arranged so closely, the request focuses on the segments instead of the intersections. See Figure 2 for a more detailed map of the crash analysis study area. See Table 1 for the data request listed by highway or street and mile point.

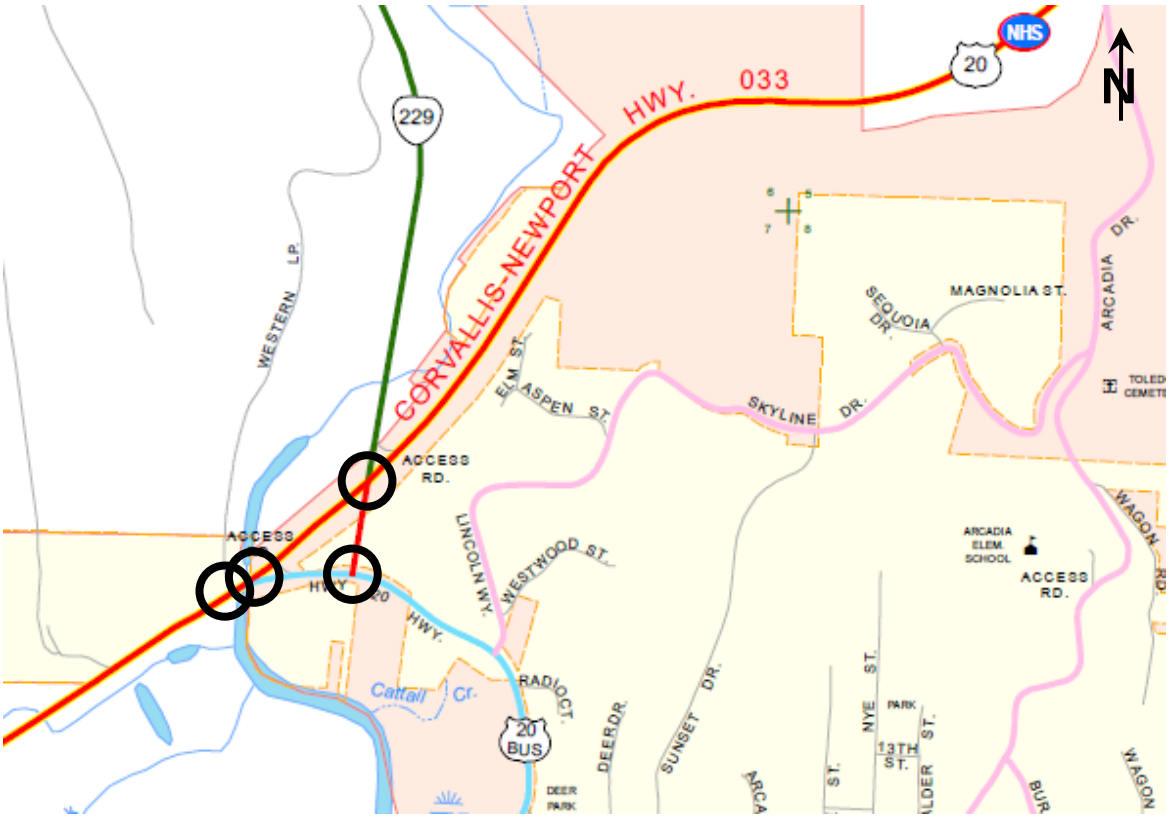


Figure 1. Toledo TSP crash analysis study intersections

Figure 2. Toledo TSP crash analysis study area

TABLE 1
City of Toledo TSP - Crash Analysis Segments

Map Color*	State Highway Number/Street Name	Route Number	Begin MP/Cross Street	End MP/Cross Street
red	Corvallis-Newport Highway No. 33	US 20	5.46 (0.1 miles west of leg from Western Loop)	5.88 (0.1 miles east of leg to OR 229)
purple	Corvallis-Newport Highway No. 33	US 20	Intersection with Western Loop	Business Loop 20
blue	Siletz Highway No. 181	OR 229	31.14 (0.1 miles north of US 20)	31.24 (US 20/OR 229)
pink	Western Loop	N/A	US 20 (at milepost 5.56 and 5.58)	0.1 miles (north of US 20)
green	Business Loop 20**	N/A	US 20 (at milepost 5.59 and 5.62)	0.2 miles (southeast along US 20)

* Corresponding with Figure 2.
** This is a City owned facility, but is included just in case data is collected for this location.

If possible, please indicate which data applies to the channelized turn lanes (which may be assigned to highway ramps in the crash data) and which data is for the mainline roadway.

Please include the most recent five years of crash data that includes information on the type of crash (head-on, angle, turning, rear-end, etc.) and the severity (property damage only, injury, or fatality).

I would also like to request the latest ODOT Region 2 SPIS list, if you can provide that.

Please provide the data to me at ahenriqu@ch2m.com in electronic Excel, Access, or comma delimited format. Also, if the data is available in a georeferenced file, we would like that as well.

Thank you in advance for your help. Please call me if you have any questions, (503) 736-4001.

Andra Henriques
Transportation Engineer
CH2M HILL

Blue Segment Data

181 SILETZ

Siletz Highway OR 229 (Hwy 181) MP 31.14 to MP 31.24
January 1, 2006 through December 31, 2010

SER# / INVEST	SPEED	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00179	Y	N	N			03/12/2006	LINCOLN	1	07		STRGHT		N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										043	01
STATE						Sun		0 0			UN	(NONE)	UNKNOWN	N	DRY	FIX		PRVTE	S N										000 043	00
						8P		31.18			06			N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	18	M	OR-Y		047,081	017		01
												(02)													OR<25					
00469	N	N	N	N	N	08/23/2009	LINCOLN	1	07		INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY						Sun		0 0			UN		STOP SIGN	N	DRY	REAR		PRVTE	S N									000		00
						4P		31.24			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		043	000		07
																									OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S N									011		00
																		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y		000	000		00
																									OR<25					
00783	N	N	N			12/04/2007	LINCOLN	1	07		INTER	CROSS	N	N	CLR	S-1TURN	01	NONE	STRGHT											07
NONE						Tue		0 0			N		STOP SIGN	N	DRY	REAR		PRVTE	N S									000		00
						10A		31.24			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y		026	038		07
																									OR<25					
																	02	NONE	STOP											
																		PRVTE	N S									011		00
																		PSNGR CAR		01	DRVR	INJC	46	M	OR-Y		000	000		00
																									OR<25					
00381	N	N	N	N	N	07/19/2009	LINCOLN	1	07		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27
STATE						Sun		0 0			N		STOP SIGN	N	DRY	REAR		PRVTE	N S									088		00
						2P		31.24			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y		016,026	038		27
																									OR>25					
																	02	NONE 0	STOP											
																		PRVTE	N S									011		00
																		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y		000	000		00
																									OR>25					
																				02	PSNG	NO<5	02	M			000	000		00

Green Segment Data

033 CORVALLIS-NEWPORT

Business Loop from US 20 to 0.20 miles Southeast
January 1, 2006 through December 31, 2010

SER# / INVEST	SPED	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP / PNT	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
00591	N	N	N	N	N	12/13/2010	LINCOLN	1	02		INTER	3-LEG	N		N	RAIN	ANGL-OTH	01	NONE	0	STRGHT									
STATE						Mon		0	0		CN		STOP SIGN		N	WET	TURN		PRVTE		W E								000	00
						5P		5.62			04	1			N	DARK	INJ		PSNGR CAR			01	DRVR	NONE	43	M	OR-Y		000	000	00
																											OR<25				
																		02	NONE	0	TURN-L									
																			PRVTE		S W								015	00
																			PSNGR CAR			01	DRVR	INJB	82	F	OR-Y		028	000	02
																											OR<25				

Pink Segment Data

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Western Loop from US 20 to 0.10 miles North

January 1, 2006 through December 31, 2010

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Purple Segment Data

033 CORVALLIS-NEWPORT

Corvallis-Newport Highway connection to Business Loop 20
January 1, 2006 through December 31, 2010

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP / PNT	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00494	N	N	N	N	N	10/16/2010	LINCOLN	1	09	1	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											02
CITY						Sat		6	0		CN		STOP SIGN	N	DRY	TURN		PRVTE	N E									015		00
						11A		5.83			04	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		028	026		02
																									OR<25					
																	02	NONE 0	STRGHT											
																		PRVTE	W E									000		00
																		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y		000	000		00
																									OR<25					
																				02	PSNG	NO<5	01	F			000	000		00

Red Segment Data

033 CORVALLIS-NEWPORT

Corvallis-Newport Highway US 20 (Hwy 033) MP 5.46 to MP 5.88
January 1, 2006 through December 31, 2010

SER# / INVEST	SPEED	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	VEH TYP	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00615	N	N	N	N	N	09/14/2007	LINCOLN	1 / 0 / 5.47	02 / 0		STRGHT / UN / 03	(NONE) / (02)	N / NONE	N / N	CLR / DRY / DAY	S-1STOP / REAR / PDO	01	NONE / PRVTE / PSNGR CAR	1 / W / E	STRGHT / E						OR-Y / OR>25		043,026		092,013	07
STATE						Fri																							001		00
						3P															01	DRVR	NONE	41	M				000		07
																	02	NONE / PRVTE / PSNGR CAR	0 / W / E	STOP / E						OR-Y / OR<25		000	022	013	00
																					01	DRVR	NONE	18	F				000		00
																	03	NONE / PRVTE / PSNGR CAR	0 / W / E	STOP / E						OR-Y / OR>25		000	011	092	00
																					01	DRVR	NONE	41	M				000		00
00724	Y	N	N	N	N	12/16/2008	LINCOLN	1 / 0 / 5.50	02 / 0	CORV-NEWPORT HWY	STRGHT / UN / 06	(NONE) / (02)	N / NONE	Y / N	CLD / ICE / DAY	FIX OBJ / FIX / PDO	01	NONE / PRVTE / PSNGR CAR	0 / STRGHT / E W								OR-Y / OR<25		047,080,081		124,079,010	01
STATE						Tue	TOLEDO			WESTERN LP																			000	124,079,010	00
						3P															01	DRVR	NONE	28	F				017		01
00591	N	N	N	N	N	12/13/2010	LINCOLN	1 / 0 / 5.62	02 / 0		INTER / CN / 04	3-LEG / 1	N / STOP SIGN	N / N	RAIN / WET / DARK	ANGL-OTH / TURN / INJ	01	NONE / PRVTE / PSNGR CAR	0 / STRGHT / W E								OR-Y / OR<25		000			02
STATE						Mon																							000		00
						5P															01	DRVR	NONE	43	M				000		00
																	02	NONE / PRVTE / PSNGR CAR	0 / TURN-L / S W							OR-Y / OR<25		000	015		00
																					01	DRVR	INJB	82	F				028		02
00355	N	N	N	N	N	08/06/2010	LINCOLN	1 / 0 / 5.74	02 / 0		INTER / CN / 01	CROSS / 0	N / STOP SIGN	N / N	CLD / DRY / DAY	ANGL-OTH / TURN / PDO	01	NONE / PRVTE / PSNGR CAR	0 / TURN-L / N E								OTH-Y / N-RES		028			02
STATE						Fri																							015		00
						1P															01	DRVR	NONE	74	M				000		02
																	02	NONE / PUBLC / PSNGR CAR	0 / STRGHT / E W							OR-Y / OR-?		000			00
																					01	DRVR	NONE	56	M				000		00
00514	N	N	N			10/25/2010	LINCOLN	1 / 0 / 5.74	02 / 0		INTER / CN / 02	CROSS / 1	N / FLASHBCN-R	N / N	CLD / WET / DAY	ANGL-OTH / ANGL / FAT	01	NONE / PRVTE / PSNGR CAR	/ S N	STRGHT							OTH-Y / N-RES		028		012,013	02
STATE						Mon																							015		00
						3P															01	DRVR	INJC	82	F				028		02
																	02	NONE / PRVTE / SEMI TOW	1 / W E	STRGHT						OR-Y / OR>25		000	012,013,010		00
																					01	DRVR	NONE	57	M				000		00
																	03	NONE / PUBLC / PSNGR CAR	1 / E W	STRGHT						OR-Y / OR<25		000	022		00
																					01	DRVR	KILL	52	F				000		00

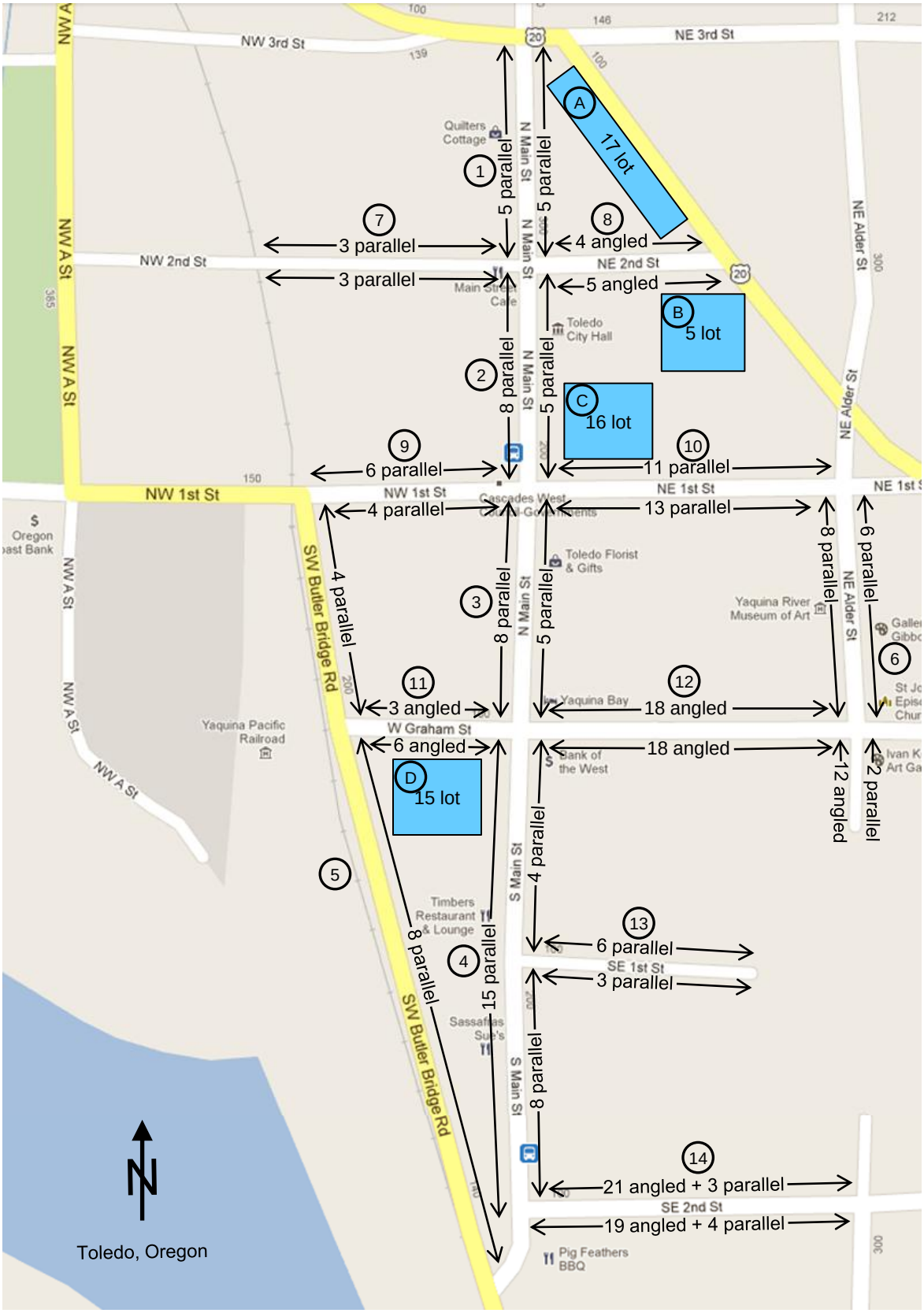
033 CORVALLIS-NEWPORT

Corvallis-Newport Highway US 20 (Hwy 033) MP 5.46 to MP 5.88
January 1, 2006 through December 31, 2010

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
00430	N	N	N	N	N	07/30/2006	LINCOLN	1	02		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										27,32,10
STATE						Sun		0	0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	E W									000	00
						3P		5.74			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	27	M	OR-Y OR>25		000	000	00
																	02	NONE 0	STRGHT										
																		PRVTE	N S									015	00
																		PSNGR CAR		01	DRVR	NONE	18	F	SUSP OR<25		052,016,028	000	27,32,10
																				02	PSNG	NO<5	01	M			000	000	00
00704	N	N	N	N	N	10/25/2007	LINCOLN	1	02		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
STATE						Thu		0	0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W E									000	00
						7P		5.74			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		000	000	00
																	02	NONE 0	STRGHT										
																		PRVTE	S N									015	00
																		PSNGR CAR		01	DRVR	INJC	49	F	OR-Y OR<25		028	000	02

Attachment L

Parking Study Results


NW 3rd St
NE 3rd St
NW A St
NW 2nd St
NE 2nd St
NW 1st St
NE 1st St
N Main St
S Main St
NE Alder St
SW Butler Bridge Rd
W Graham St
SE 1st St
SE 2nd St
Quilters Cottage
Main Street Cafe
Toledo City Hall
Cascades West Council of Governments
Toledo Florist & Gifts
Yaquina River Museum of Art
Yaquina Bay
Yaquina Pacific Railroad
Bank of the West
Timbers Restaurant & Lounge
Sassafras Sue's
Pig Feathers BBQ
A 17 lot
B 5 lot
C 16 lot
D 15 lot
1 5 parallel
2 8 parallel
3 8 parallel
4 15 parallel
5 8 parallel
6 2 parallel
7 3 parallel
8 4 angled
9 6 parallel
10 11 parallel
11 3 angled
12 18 angled
13 6 parallel
14 21 angled + 3 parallel
5 parallel
3 parallel
5 angled
4 parallel
13 parallel
8 parallel
6 parallel
4 parallel
6 angled
18 angled
12 angled
2 parallel
4 parallel
3 parallel
19 angled + 4 parallel
N
Toledo, Oregon

Attachment L

Toledo TSP – Parking Study

	Location	Available Spots*	Utilized Spots 12-1 pm	1-2 pm	2-3 pm	3-4 pm	4-5 pm	5-6 pm
Parking Lots								
A	SE corner of Main St. & Hwy 20 Bus	17	4	4	3	5	4	5
B	SW corner of NE 2nd St. & Hwy 20 Bus	5	2	2	1	1	1	1
C	City Hall Lot	16**	--	--	--	--	--	--
D	City Lot	15	13	13	7	4	3	7
	Total for Lots (percent utilized)	37	19(51%)	19(51%)	11(30%)	10(27%)	8(22%)	13(35%)
Street Parking								
1	Main St. between NE 3rd and 2nd St.	10	6	5	7	7	3	2
2	Main St. between NE 2nd and 1st St.	13	10	8	3	3	5	3
3	Main St. between NE 1st St. and Graham	13	8	11	8	9	8	6
4	Main St. between Graham St. and SE 2nd	27	23	18	10	10	11	13
5	Butler Bridge Rd. between NW 1st St. and Main	12	3	2	2	1	1	2
6	Alder St. between Hwy 20 Bus and Elks Lodge	28	4	4	2	2	4	3
7	NE 2nd St. between RR and Main St.	6	3	3	1	2	3	2
8	NE 2nd St. between Main St. and Hwy 20 Bus	9	6	4	2	4	4	4
9	NE 1st St. between Butler Br. Rd. and Main St.	10	9	5	4	4	4	4
10	NE 1st St. between Main and Alder St.	24	11	10	8	6	7	8
11	Graham St. between Butler Br. Rd. and Main St.	9	1	0	1	2	3	4
12	Graham St. between Main and Alder St.	36	3	5	5	5	5	6
13	SE 1st St. between Main St. and Elks Lodge	9	1	1	1	1	1	1
14	SE 2nd St. between Main and Alder St.	47	6	7	7	6	0	0
	Total for Streets (percent utilized)	253	94(37%)	83(33%)	61(24%)	62(25%)	59(23%)	58(23%)
	Overall Total (percent utilized)	290	113(39%)	102(35%)	72(25%)	72(25%)	67(23%)	71(24%)

Notes:

* Number of available spots is an estimate where parking spots were not marked.

** City Hall lot is excluded from the study because it was temporarily closed for most of the day.

Appendix D
Transportation Alternatives

Appendix D is a compilation of four Technical Memoranda with proposed alternatives for all transportation modes within the City of Toledo and is labeled Appendices D1-D5 in the following Appendix.

- Appendix D1 is Technical Memorandum #4: Transportation System Proposed Improvements. This section includes alternatives for roadway projects to address identified needs.
- Appendix D2 is Technical Memorandum #5: Local Pedestrian and Bicycle Systems. This section includes bicycle and pedestrian projects to address identified non-motorized transportation needs.
- Appendix D3 is Technical Memorandum #6: Local Transit System. This section includes policies and existing conditions for public transportation in Toledo.
- Appendix D4 is Technical Memorandum #7: Rail, Air, Water, and Pipeline Systems. This section includes a summary of needs and alternatives for all other transportation modes within the City.
- Appendix D5 is Technical Memorandum #8: Costs and Priorities for Transportation System Improvements. This includes project priorities and planning level cost estimates for alternatives described in Technical Memoranda #4-7.

Toledo TSP: Transportation System Proposed Improvements

This memorandum describes the proposed policies and projects for the Toledo Transportation System Plan (TSP) to address deficiencies and needs identified in Technical Memorandum #3 (November 2012). These are alternatives for projects and policies and will be reviewed by the Project Management Team (PMT), the Project Advisory Committee (PAC), and the general public before they are included in the TSP. Projects and policies will be compared against the TSP goals, and those that best meet the goals will be included in the TSP. The project team developed these alternatives with input from stakeholders and community members. Once the PMT, PAC, and community have reviewed these project alternatives and provided feedback, the project team will carry the recommended projects forward into the final TSP document.

This memorandum describes the street system, road standards, freight route, and intersection concepts along with the results of traffic analysis associated with these concepts. Alternatives for bicycle and pedestrian mode, transit, rail, air, and water transportation are included in Technical Memoranda #5-#7. Planning level cost estimates for the projects and policies for all transportation modes are included in Technical Memorandum #8.

Transportation System Needs

Technical Memorandum #3 outlined the existing transportation system needs. There is one intersection that failed to meet congestion targets: US 20 at Business Loop 20, also known as the Western Junction. Additionally, there are also long vehicle queues, or vehicle backups at three intersections: US 20 and Business Loop 20 (Western Junction), Business Loop 20 Spur at Business Loop 20, and Business Loop 20 at A Street. These backups are especially problematic as they begin to block driveways and other public streets.

These needs are also present in the future (2035) conditions, with congestion exceeding the standards at two more intersections (US 20 at Western Loop and US 20 at OR 229), beyond the existing congestion at the Western Junction intersection. Future traffic backups include the three intersections identified in the existing conditions, along with intersections at: US 20 at OR 229, US 20 at Western Loop, and Business Loop 20 at Yaquina Bay Road.

There are also serious safety concerns for vehicles at the Western Junction; the community is concerned with the amount of near-miss and actual crashes at this location. As traffic and congestion increases on US 20 in the future, these safety concerns will increase. The following street alternative projects address these identified transportation needs.

Street System Alternatives

Recommended Road Standards

Table 1 lists the recommended standards for arterial, collector, commercial, and local roads, as well as the unique standards recommended for Main Street in downtown Toledo. The standards shown in Figures 1-3 include the recommended cross sections for each of the classifications.

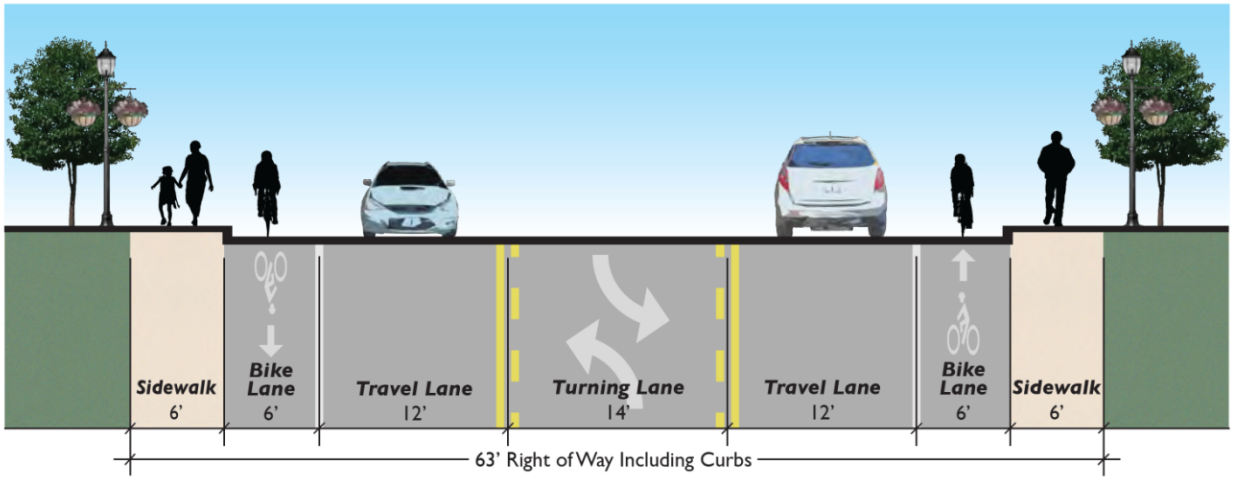
TABLE 1
Recommended Road Design Standards

Type of Street	Road Width with Curbs*	Travel Lane	Center Median or Center Turn Lane	On-Street Parking	Bike Lane	Sidewalk (ft)
Arterial						
3-Lane	63’	Two 12’ travel lanes	14’	None	6’ on both sides	6’ on both sides
2-Lane	49’	Two 12’ travel lanes	None	None	6’ on both sides	6’ on both sides
Collector	45’	Two 12’ travel lanes	None	None	5’ on both sides	5’ on both sides
Commercial	77’	Two 12’ travel lanes	14’	8’ on both sides	5’ on both sides	6’ on both sides
Local						
Preferred	55’	Two 14’ travel lanes	None	8’ on both sides	Cyclists share the travel lane	5’ on both sides
Minimum	39’	Two 14’ travel lanes	None	None	Cyclists share the travel lane	5’ on both sides
Main Street	61’	Two 12’ travel lanes	None	8’ on both sides	None	10’ on both sides
Multi-Use Path	N/A	N/A	N/A	N/A	12’ total width (10’ paved trail with 1’ gravel shoulders)	
Boardwalk	N/A	N/A	N/A	N/A	12’ total width with side railings; 10’ if no rails are used	

*Six inch curbs are assumed on either side

FIGURE 1
Arterial Road Standards

3-LANE **ARTERIAL** ROAD



2-LANE **ARTERIAL** ROAD

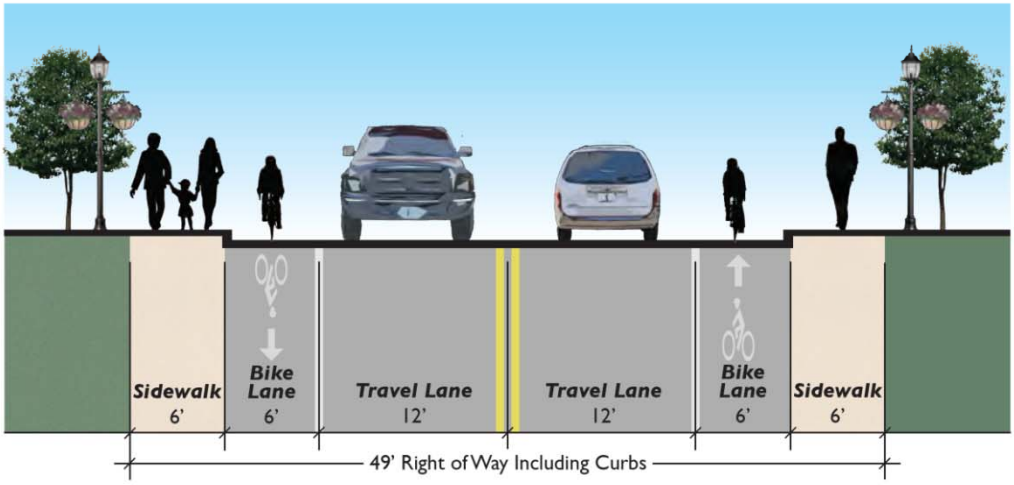
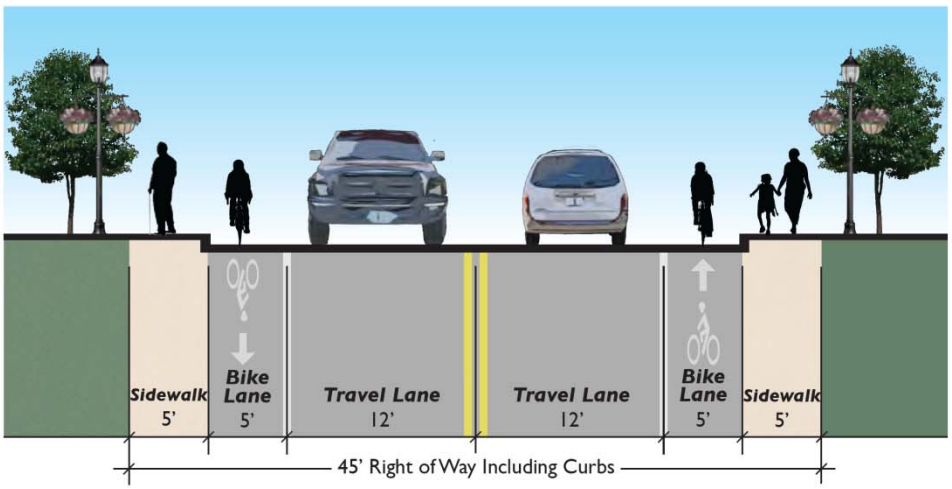


FIGURE 2
Collector and Commercial Road Standards

COLLECTOR ROAD



COMMERCIAL ROAD

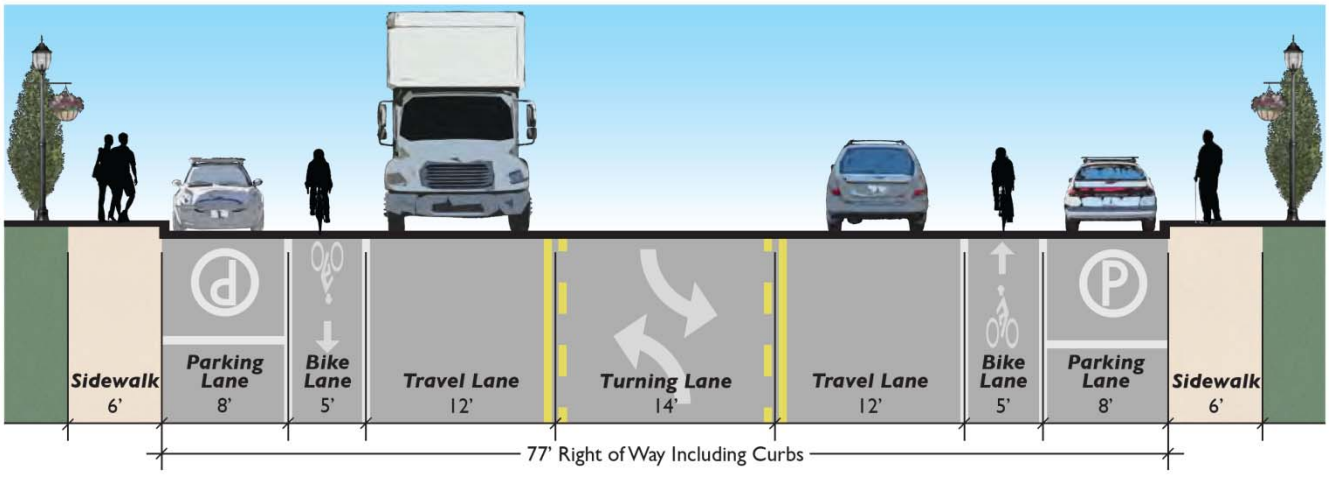
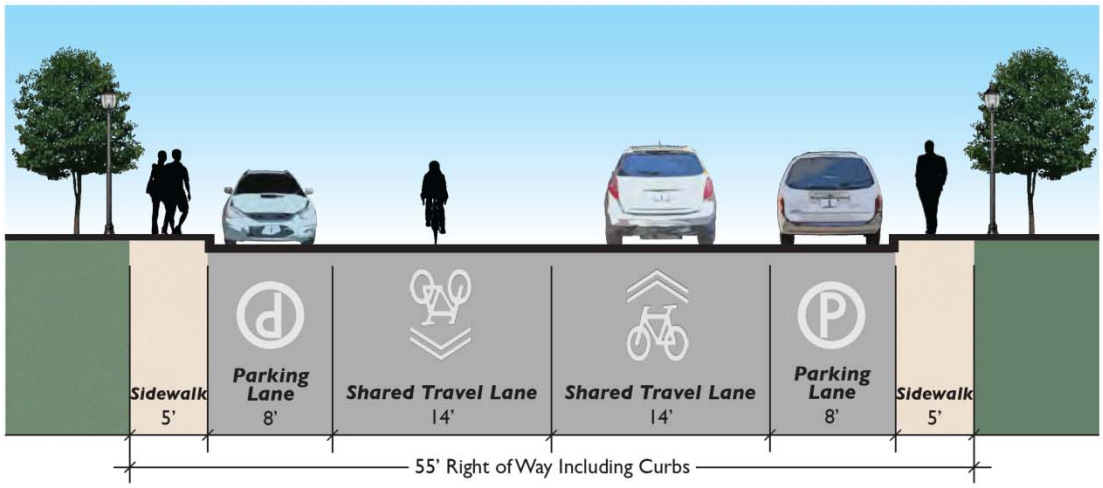


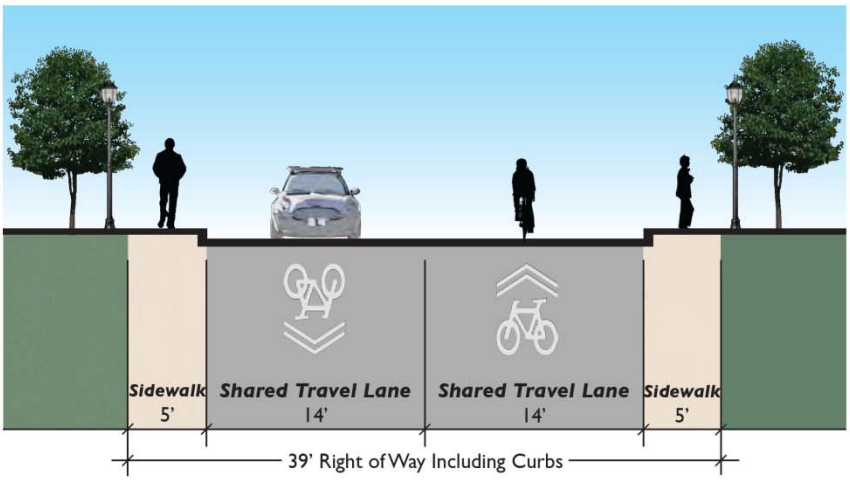
FIGURE 3

Local Road and Main Street Standards

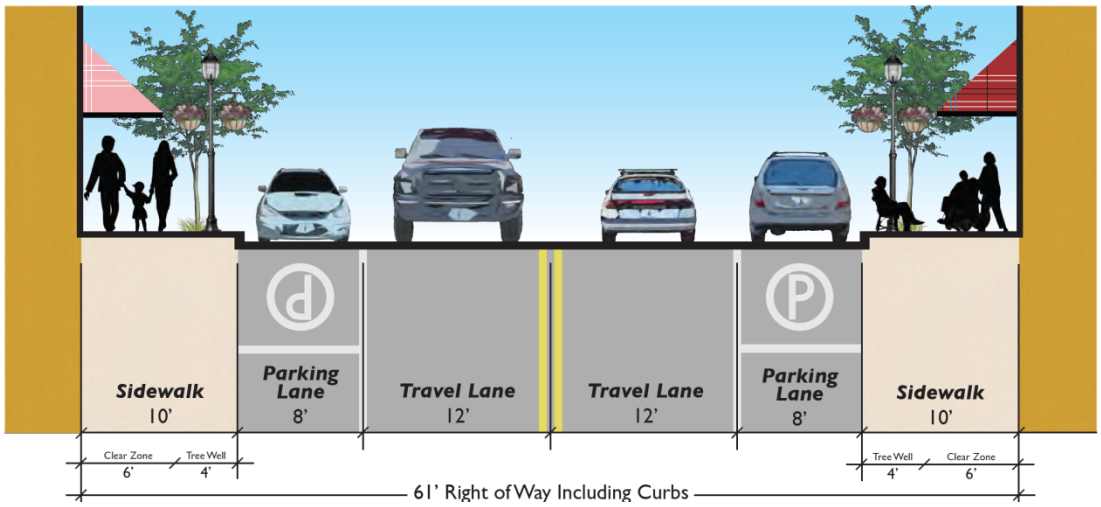
PREFERRED **LOCAL** ROAD



MINIMUM **LOCAL** ROAD



DOWNTOWN **MAIN STREET**



New Streets

There are no new streets or proposed street extensions recommended in the TSP.

Recommended Functional Classification

In Technical Memorandum #3, Existing Conditions Report, the project team identified a number of functional classification discrepancies between the City of Toledo's Geographic Information Systems (GIS) data, the Toledo Public Facilities Plan (1989) referenced in the 1995 unadopted Toledo TSP, and the ODOT functional classification map (2011). The *Transportation Planning Rule* (TPR) requires that the functional classification of roads in local TSPs be consistent with state and regional designations. Because Toledo does not currently have an adopted TSP, the current TSP process includes recommendations for functional classification changes to create consistency for all jurisdictions. Once the current TSP is adopted, ODOT will amend the functional classification map for the City to reflect the following recommended changes.

The project team recommends adjusting the functional classification for five roads within the Toledo Urban Growth Boundary (UGB). The proposed designations reflect current function, use, and traffic volumes. Street upgrades or land use changes will trigger the requirement to meet the specifications of the proposed classification; until these changes take place current roads will not be required to upgrade. Table 2 summarizes these changes. Figure 4 shows the updated functional classification system for Toledo.

Collector - A Street/1st Street/Butler Bridge Road (between Business Loop 20 and Main Street)

According to the *Public Facilities Plan*, this road was previously classified as a collector. It is also identified as a Freight Route in the previous unadopted Toledo TSP (1995). However, the City's GIS data and the ODOT map both classify these streets as local streets.

The project team recommends designating this route as a collector due to the industrial character of surrounding parcels and existing truck volumes. In addition, the streets provide access to the Port and the Georgia-Pacific plant from other citywide Freight Routes.

Collector - Arcadia Drive (north of Skyline Drive to UGB)

ODOT classifies this roadway as a collector, while the City's GIS data and *Public Facilities Plan* designates Arcadia Drive as a local street north of Skyline Drive. In addition, Arcadia Drive provides one of the only three access points to Toledo from US 20.

The project team recommends classifying all of Arcadia Drive as a collector to match the designation south of Skyline Drive. The road's narrow width, sharp curves, and steep grade make it unsuitable for freight.

Collector - Lincoln Way

The City's GIS data classifies Lincoln Way as a local street, while the *Public Facilities Plan* and ODOT designates the facility as a collector. Lincoln Way is a continuation of Skyline Drive west of Aspen Street and the Lincoln-Skyline route connects Business Loop 20 and Arcadia Drive.

The project team recommends changing the designation to collector to match the label for Skyline Drive. The road's sharp curves and steep grades make it unsuitable for freight.

Collector - East Slope Road (north of 10th Street)

All current documents identify East Slope Road north of 10th Street as a local road. However, the Recommended Roadway Classification map in the unadopted 1995 TSP recommends upgrading East Slope Road to a collector from Business Loop 20 to Butler Bridge Road. East Slope is one of the only direct connections between the Georgia-Pacific plant and Business Loop 20, and connects the local road network to regional facilities and another collector (Butler Bridge Road).

East Slope Road is not currently a Freight Route due to the steep grade and narrow lanes; future improvements recommended in this memorandum may provide a more direct truck route instead of Sturdevant Road to access the Georgia-Pacific plant.

Local - Main Street (south of Business Loop 20)

Street is Toledo's downtown retail district and has an attractive, pedestrian-oriented streetscape with on-street parking. Nearby Butler Bridge Road/1st Street/A Street is a more suitable route for north-south traffic bypassing downtown, especially for freight.

The project team recommends downgrading the ODOT Main Street collector designation to a local street.

TABLE 2
Functional Classification Discrepancies and Project Team Recommendation

Road	City of Toledo GIS Data	Toledo Public Facilities Map (1989)	ODOT Functional Classification map (2011)	Project Team Recommendation
US 20	Principal Arterial	Principal Arterial	Principal Arterial	Principal Arterial
Business Loop 20	Arterial	Minor Arterial	Minor Arterial	Arterial
Business Loop 20 Spur	Collector	Local	Principal Arterial	Arterial
Sturdevant Road	Collector	Major Collector	Major Collector	Collector
A Street (north of Business Loop 20)	Collector	Minor Collector	Minor Collector	Collector
A Street (south of Business Loop 20)/1st Street/ Butler Bridge Road	Local	Major Collector	Local	Collector
East Slope Road/SE 10th Street	Collector	Major Collector	Major Collector	Collector
Bay Boulevard	Collector	Major Collector	Major Collector	Collector
OR 229	Arterial	Major Collector	Major Collector	Collector
Arcadia Drive (north of Skyline Drive to UGB)	Local	Local	Minor Collector	Collector
Arcadia Drive (south of Skyline Drive)/11th Street/ A Street	Collector	Minor Collector	Minor Collector	Collector
Skyline Drive	Collector	Minor Collector	Minor Collector	Collector
Lincoln Way	Local	Minor Collector	Minor Collector	Collector
Burgess Road	Collector	Minor Collector	Minor Collector	Collector
Main Street	Collector	Local	Major Collector	Local
East Slope Road (north of SE 10th Street to Business Loop 20)	Local	Local	Local	Collector

Shaded rows are recommended functional classification changes

Source: City GIS data provided by the City of Toledo in July 2012
Public Facilities Functional classifications are from the 1995 *Toledo TSP*, which cites the *Toledo Public Facilities Plan* 1989
ODOT Functional classifications are from the ODOT website and labeled Lincoln County, 2009.

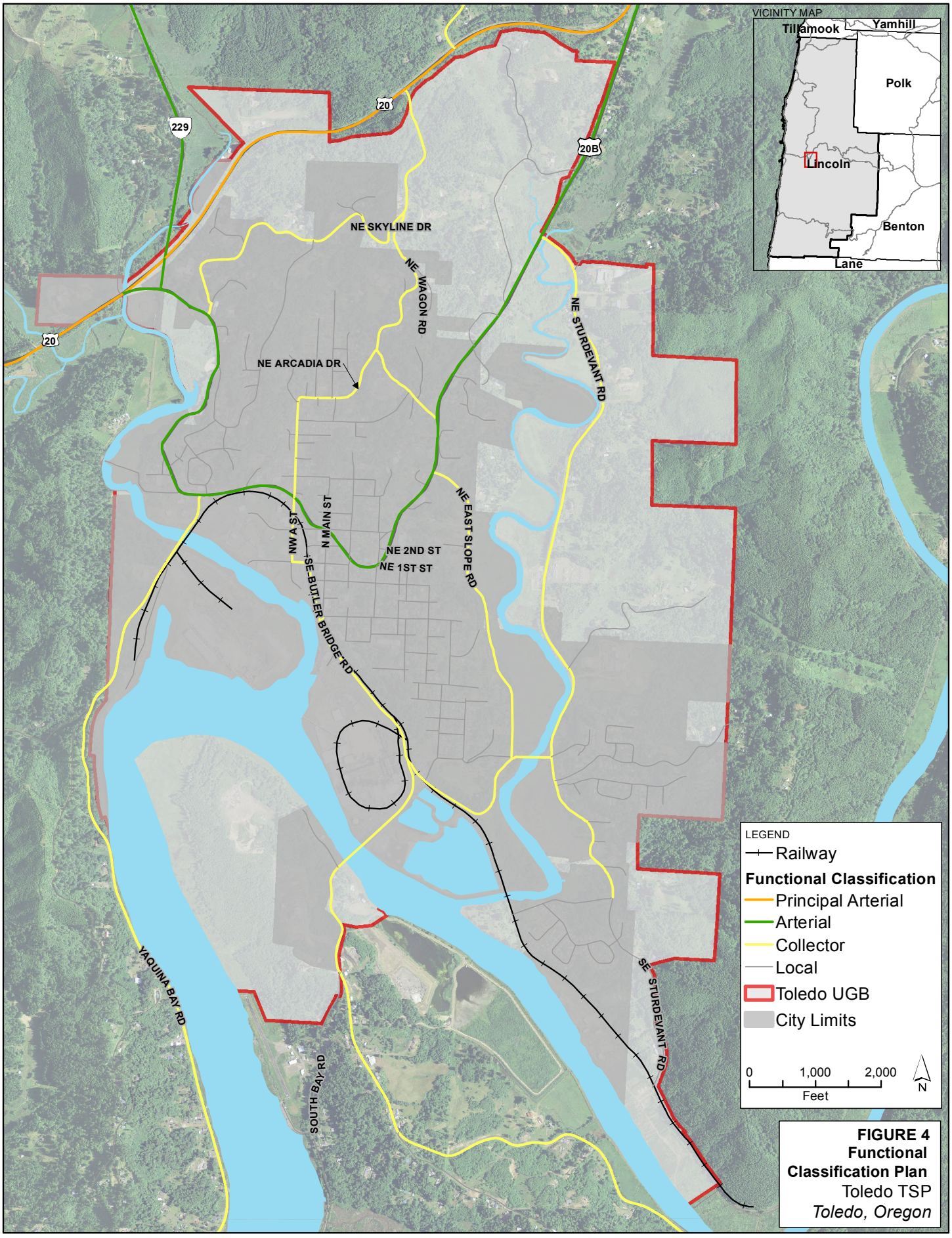


FIGURE 4
Functional Classification Plan
Toledo TSP
Toledo, Oregon

Freight Alternatives

Freight Route Network

There are no recommended changes to the freight route network in Toledo. However, future improvements to East Slope Road (described in the route upgrades section below) could allow a more direct freight route than Sturdevant Road to the Georgia-Pacific plant. However, the City recognizes the importance of freight to the community and economic development within the City. The following policy acknowledges freight's importance and includes a City policy to support heavy industrial sites with needed freight connections:

- **Freight Policy 1:** The City will continue to support transportation access to heavy industrial sites in the City including the Siletz Kiln site to support economic development.

Wayfinding Signs and Other Route Upgrades

Adding wayfinding signs would help direct freight truck traffic to designated routes and reduce the amount of trucks on inappropriate or undesignated routes. This includes additional signs along US 20 towards Business Loop 20 guiding trucks to the Truck Route, as well as larger signs at the Business Loop 20 and Sturdevant Road intersection to directing truck drivers to turn. This recommendation includes adding "No Trucks" signs on streets frequently mistaken by truck drivers, such as Arcadia Drive and in downtown Toledo.

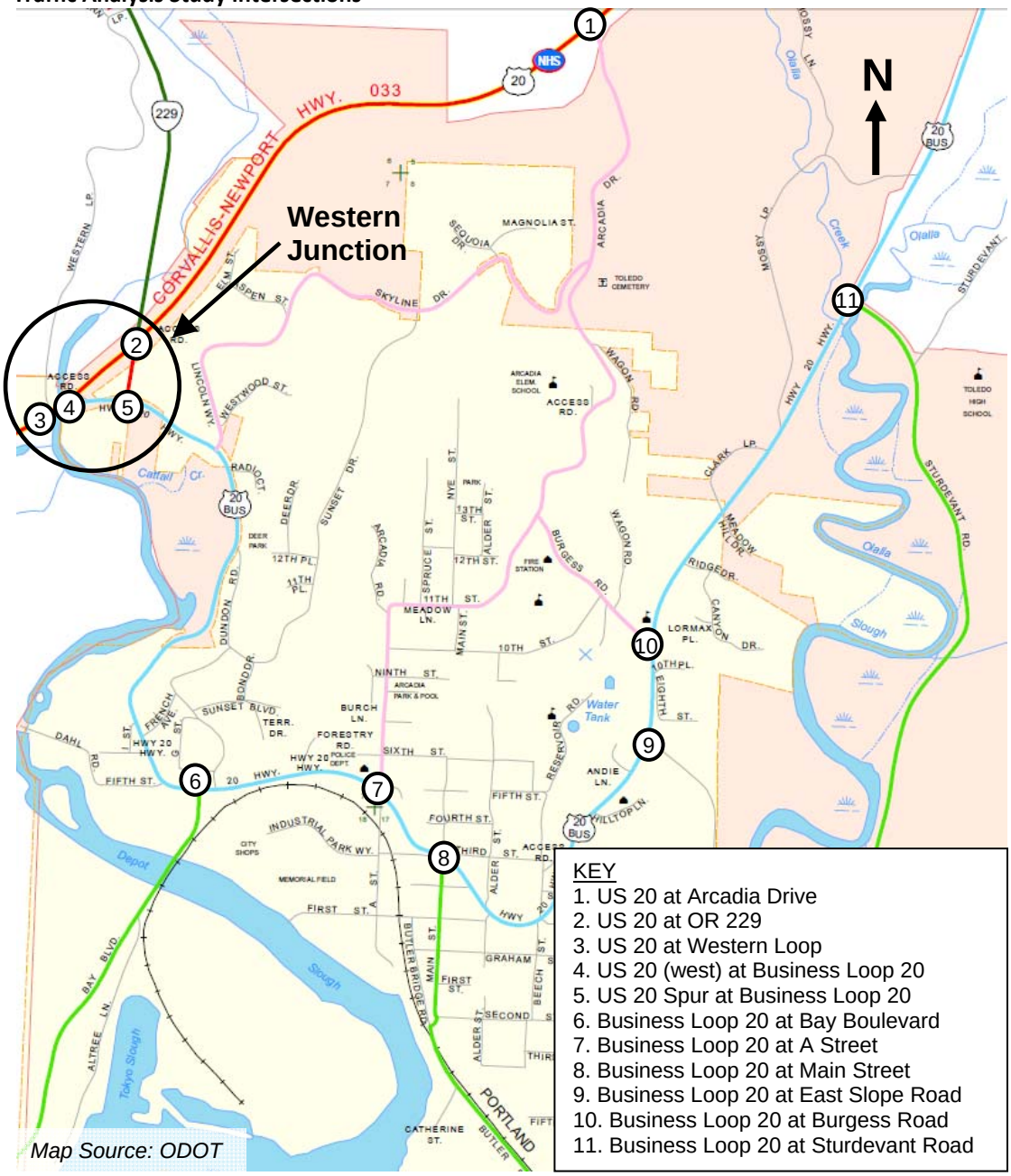
In order to create a more direct freight route for trucks accessing the Georgia-Pacific plant, the project team recommends upgrades to East Slope Road between Business Loop 20 and SE 10th Street to improve the steep slope on the road, improving the sight distance, and ability for trucks to turn.

Intersection Alternatives

The project team identified mobility and queuing deficiencies at two of the study intersections in Technical Memorandum #3. These are US 20 at OR 229 and US 20 (west) at Business Loop 20. In addition, three locations had queuing deficiencies only. These are Business Loop 20 at Business Loop 20 Spur, Business Loop 20 at Bay Boulevard and Business Loop 20 at A Street. The project team studied these locations to see what options could ensure a good flow of traffic in the future. Most of these locations are discussed in further detail later in this memorandum. The intersection of Business Loop 20 and Bay Boulevard will not be discussed. This location has a relatively minor queuing issue and based on the forecast volumes, does not warrant any changes to the existing configuration. No alternatives are being suggested at this location.

Figure 5 shows a map of the Toledo TSP traffic study intersections. The alternatives analysis focuses on the intersections in the Western Junction (2-5), and A Street (7) on Business Loop 20.

FIGURE 5
Traffic Analysis Study Intersections



Western Junction

Several study intersections make up the intersection of US 20 and Business 20 Loop; referred to as the Western Junction. These intersections are:

Intersection 2 - US 20 at OR 229
Intersection 3 - US 20 at Western Loop
Intersection 4 - US 20 (west) at Business Loop 20
Intersection 5 - US 20 Spur at Business Loop 20

The project team focused on simplifying the road network when developing alternatives for the Western Junction. Fewer access points to the highway mean fewer conflict points where accidents could occur. Reducing access points could also help with driver understanding and expectancy, as vehicles travel though the junction.

The project team developed alternatives for the Western Junction intersections for the junction as a whole; however, the results are reported for each individual intersection. The project team considered several alternatives for the Western Junction, beginning with no-build and followed by build alternatives listed alphabetically. Each alternative includes a short description of the option, the pros and cons of constructing the option, and likely effects on safety. For all alternatives, to improve safety, the project team looked at ways to reduce or eliminate cross traffic, due to the severity of cross traffic type crashes. In several cases, the project team recommends closing vehicle access to Western Loop from US 20. Traffic counts collected at the beginning of this project showed very few vehicles turning into or out of Western Loop. Alternatives that close Western Loop would redirect traffic to OR 229 to access US 20 and Toledo.

All alternatives carried forward into the TSP will require further analysis to identify right-of-way impacts, potential impacts to adjacent wetlands, and policy analysis to determine the best option to carry forward into design and construction. All alternatives that modify US 20 are subject to ODOT approval.

No-Build Alternative

The 2035 future No-Build alternative is a "do nothing" approach, beyond basic upkeep and maintenance, for the Western Junction. Analysis for this alternative is documented in Technical Memorandum #3, *Transportation Deficiencies and Needs*. The operational analysis results can be seen in Table 3 and the queuing analysis results can be seen in Table 4. Attachment A shows the No-Build HCM Synchro reports and No-Build queuing analysis reports. Western Loop at US 20 would remain open under this alternative.

Pros

- No additional cost beyond regular maintenance.
- Western Loop access would remain at US 20.

Cons

- The queuing and operational deficiencies remain at both the northbound and southbound approaches to US 20.

Safety

- Drivers may take more risks because of high traffic volumes and long queues.

Couplet Alternative

This alternative includes a couplet north of US 20, using Western Loop for the northbound direction and OR 229 for the southbound direction. The two roads would join together north of US 20 and become a two-way road.

Pros

- Much of the existing infrastructure could be used and costs for new construction could be low.

Cons

- Does not reduce access points along US 20.
- Could be confusing as a couplet, may not be expected by drivers in a rural setting.
- Would have no major effect on operations.

Safety

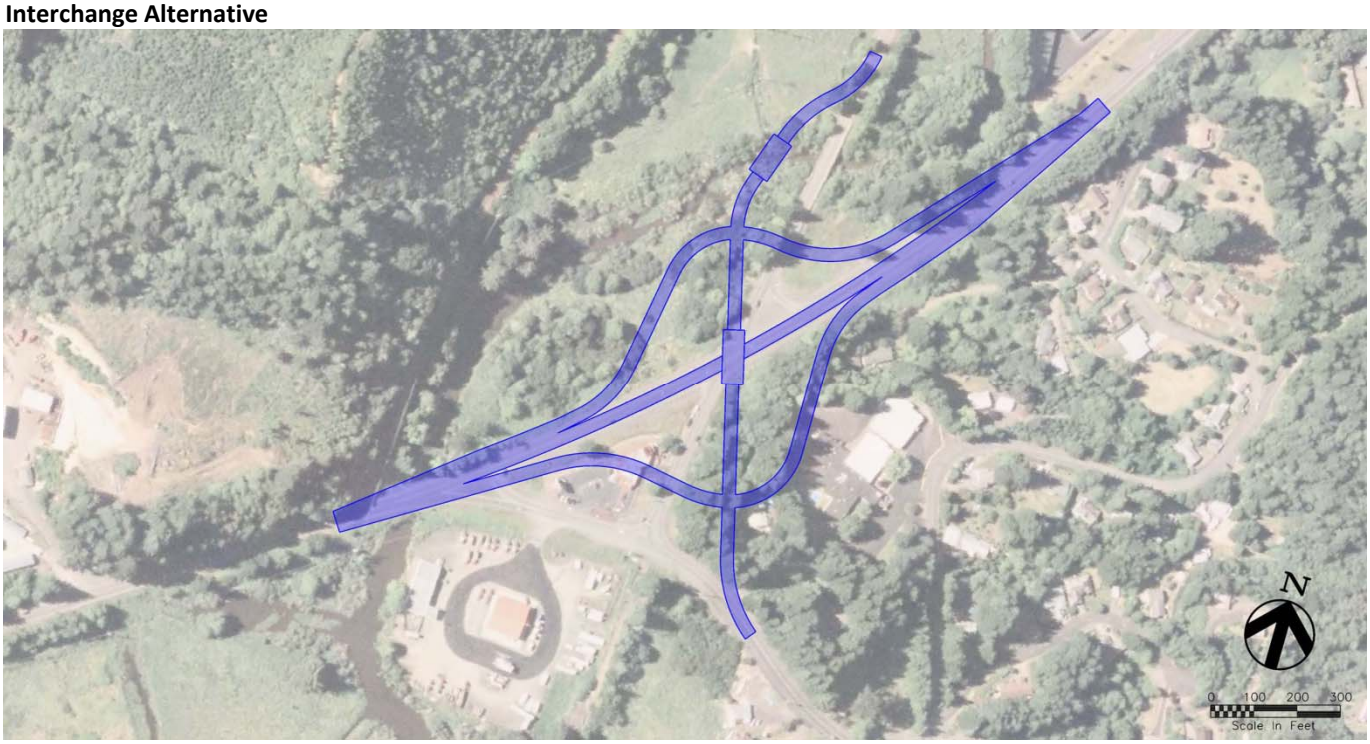
- Would slightly reduce conflict points, but it would not reduce the number of vehicles crossing US 20; it would change their location in some cases.

Based on the pros and cons listed above, the project team does not recommend this option for further analysis.

Interchange Alternative

This alternative would replace the existing Western Junction intersection with a diamond interchange. This includes a grade-separated crossing for the side streets and on/off-ramp access to US 20. All other access points to US 20 within the Western Junction including Western Loop would be closed and traffic would be directed to the interchange ramps. US 20 would remain a two lane road, but the overcrossing would be constructed to accommodate four lanes in case of a future US 20 widening. This alternative would also realign a portion of OR 229 and the US 20 spur so that the approach angles to US 20 are less skewed.

FIGURE 6
Interchange Alternative



Pros

- Would greatly improve traffic operations and reduce queuing.

Cons

- Would be difficult to fund due to the high cost.
- Drivers do not expect an interchange on a rural highway.
- Would be difficult and expensive to construct due to the wetlands just north of the intersection.
- Would impact the Dairy Queen.

Safety

- Removes all traffic crossing US 20, eliminating vehicle conflict points.
- Would close Western Loop at US 20 to maintain road spacing standards for the interchange..

Based on the high cost of this alternative, the project team does not recommend this option for operational analysis. However, based on analysis of the future forecast volumes, no operational issues are expected to occur due to the increased capacity associated with the new interchange.

Low Build Alternative

This alternative focuses on making short-term and relatively inexpensive improvements that will affect the most congested turn in the Western Junction. The low build alternative would add an acceleration lane for vehicles turning left onto US 20 from Business Loop 20. This alternative would also extend the eastbound right turn lane for vehicles from US 20 turning right onto Business Loop 20. Lastly, this alternative would modify access to US 20 from Western Loop to right-in/right-out turns. If this alternative is selected and moves forward into design and construction, the median could be modified to preserve full driveway access to Dahl's Disposal, allowing trucks to turn into and out of the property in both directions.

FIGURE 7
Low Build Alternative

Pros

- Lowest cost build alternative.
- Would alleviate congestion and slightly reduce vehicle backups at US 20 (west) and Business Loop 20.

Cons

- Even with improvements, traffic backups still exceed one mile for the northbound left queue at US 20 (west) and Business Loop 20.
- Does not improve operational (congestion) or queuing at US 20 and OR 229.

Safety

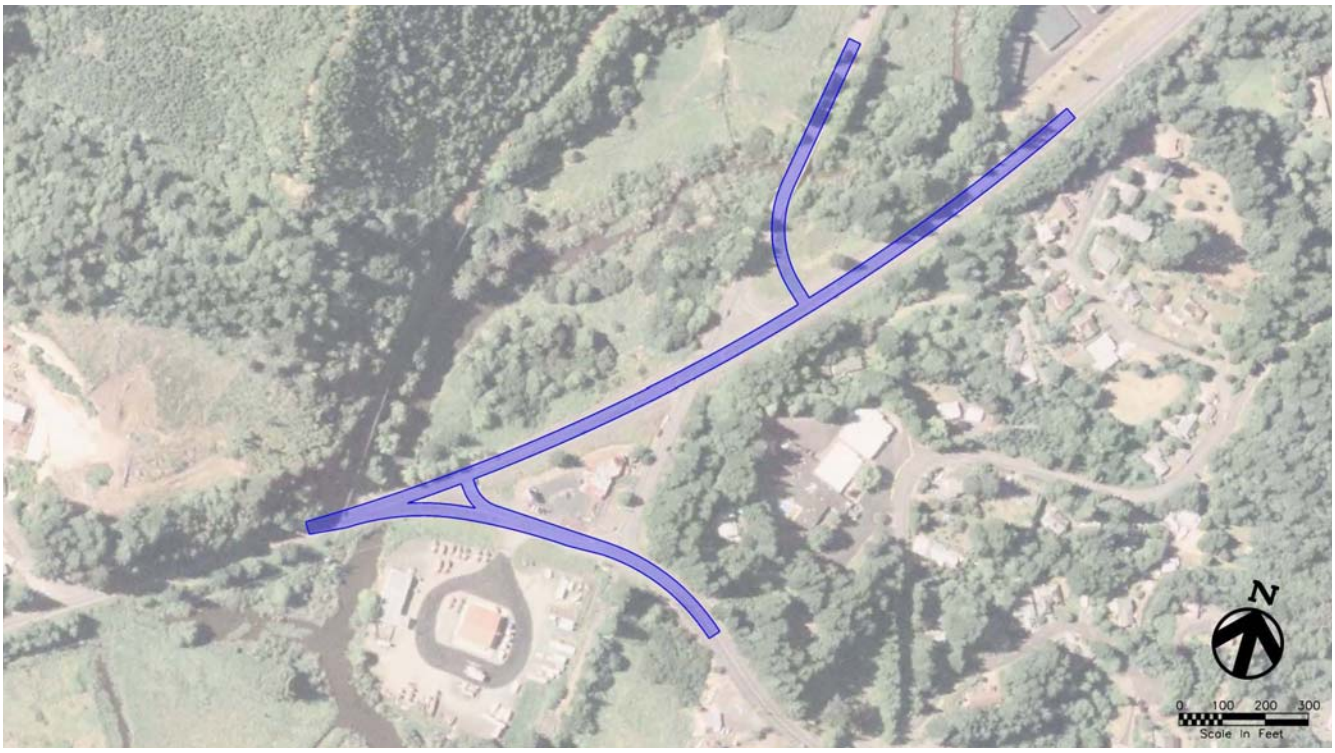
- Does not reduce the number of vehicles crossing US 20. Crashes due to cross traffic can be severe, thus a reduction of cross traffic is often looked to when trying to improve safety.
- High traffic volumes and long queues may result in greater risk-taking by drivers.
- Access to US 20 from Western Loop would be limited to right-in/right-out turns.

The operational analysis results for the Low Build alternative is shown in Table 3, and the queuing analysis results in Table 4. As shown, the Low Build alternative offers some improvements at US 20 (west) and Business Loop 20. Attachment B includes the Low Build HCM Synchro reports and queuing analysis reports.

Offset-T Intersections Alternative

The offset-T alternative would consolidate Western Junction into two "T" intersections. The southbound leg would be near the current OR 229 intersection and the northbound leg would be at the western-most Business Loop 20 connection. Every approach would have a turn pocket, except for southbound which has relatively low traffic volumes and little expected congestion. This alternative would also close the Western Loop connection to US 20.

FIGURE 8
Offset-T Intersection Alternative



Pros

- Would reduce access points onto US 20 and decreases conflict points.
- Would alleviate congestion and reduce backups at US 20 and OR 229 overall.
- The additional turn pockets at US 20 (west) and Business Loop 20 would create more capacity at the intersection.

Cons

- The critical backup for traffic - the northbound left from Business Loop 20 at US 20 - would be worse. Vehicles turning left onto Business Loop 20 from westbound US 20 would be turning at the same intersection as the northbound left-turning vehicles. The vehicles turning left from US 20 would have priority over the turns from Business Loop 20, causing additional delay and backups.

Safety

- Would remove cross traffic from US 20, but would still allow left turns out of side street approaches. Long northbound queues from Business Loop 20 onto US 20 may result in greater risk-taking by those drivers waiting to turn left.
- Would close Western Loop at US 20.

The operational analysis results for the offset-T alternative are shown in Table 3, and the queuing analysis results can be seen in Table 4. As shown, the offset-T alternative offers some improvements; however, it is also expected

to worsen the longest traffic backup in the intersection, already identified in the existing and future traffic analysis. Attachment C shows the Offset-T HCM Synchro reports and queuing analysis reports.

Roundabout Alternative

This alternative would construct a roundabout within the triangle that is currently defined by US 20 and Business Loop 20. The roundabout would have four legs, and a two-lane roundabout would be required to meet future traffic demand. All approaches except for southbound OR 229 would be two lanes. Due to low traffic on southbound OR 229, a single lane approach would accommodate vehicle demand. Access to Western Loop at US 20 would remain open with this alternative.

FIGURE 9
Roundabout Alternative

Note: the location of the roundabout could be shifted to the northeast to avoid impacting the Dairy Queen. However, shifting the location of the roundabout would require shifting the access points and could increase other impacts and the cost of the project due to topographical constraints.

Pros

- Would reduce access points onto US 20 and decreases conflict points.
- Would greatly improve vehicle backups and congestion for minor street (Business Loop 20, OR 229) approaches.
- Second lowest cost improvement.
- Would keep Western Loop open at US 20.

Cons

- Would slow traffic on US 20.
- Could impact the Dairy Queen.
- Would not be consistent with driver expectations on a rural highway.

Safety

- Would remove all cross traffic from US 20 at the Western Junction.

- Roundabouts reduce the severity of vehicle crashes by softening the angle of potential impact. The higher risk crossing maneuvers are replaced with lower-risk merging and diverging maneuvers.

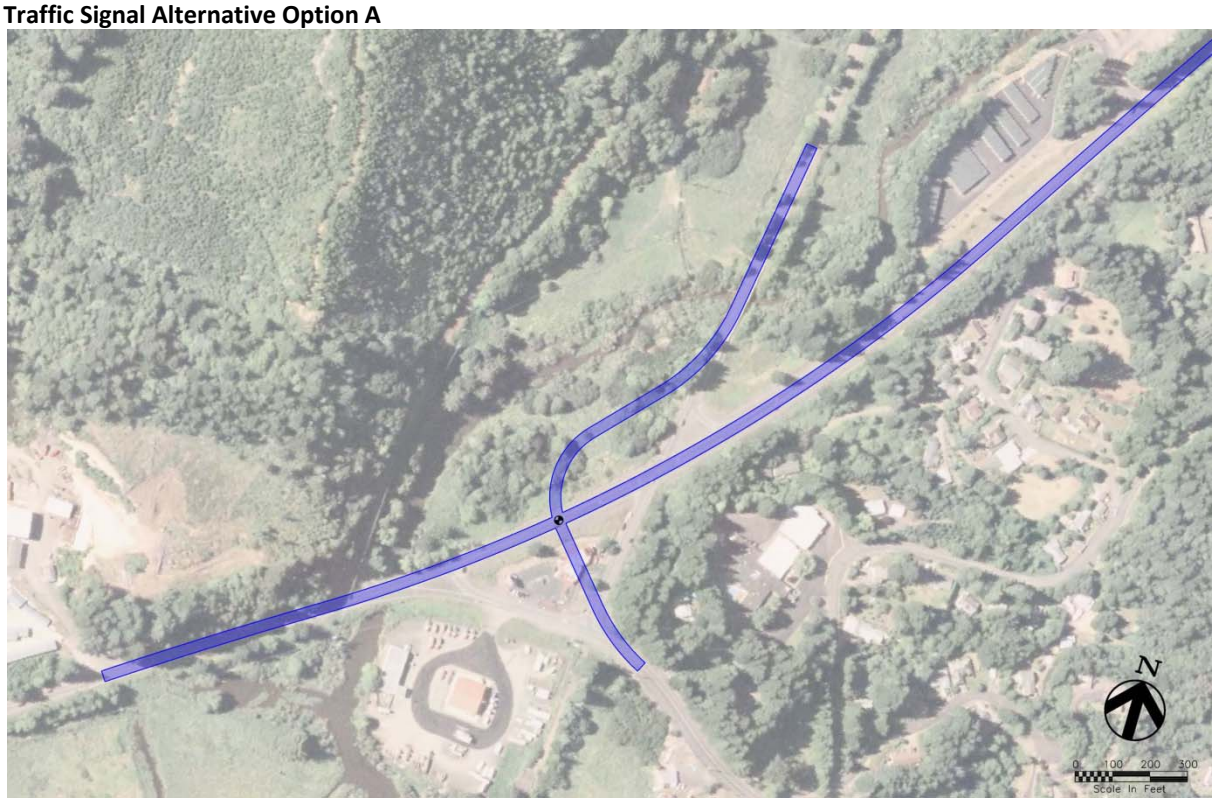
The operational analysis results for the roundabout alternative can be seen in Table 3 and the queuing analysis results can be seen in Table 4. As shown, the roundabout improves the overall intersection operations and queuing. Attachment D shows the results of the ODOT multilane roundabout calculator.

Traffic Signal Alternative

The traffic signal alternative includes two options (A and B). Option A would reconfigure US 20, OR 229, and Business Loop 20 into one signalized intersection while Option B would create two signals; one at the existing OR 229 intersection and one at the Business Loop 20, Western Loop, and US 20 intersection. Option B includes an extra traffic signal, though it would be slightly less expensive to construct than Option A, which would require new road sections near wetland areas and would have more impacts to nearby properties. Western Loop at US 20 would remain open with both options.

Traffic Signal Option A. This option would consolidate the Western Junction intersections into one signalized intersection. US 20 would be widened to a four lanes with two travel lanes in each direction. The widening would extend eastward to the existing four lane cross section between the Western Junction and Arcadia Drive. The widening would extend westward approximately 700 feet. This option would also realign the southbound OR 229 approach and northbound US 20 spur approach so that the approaches are perpendicular to US 20. Long turn pockets are needed for this alternative to meet the mobility target and reduce vehicle backups. These include dual northbound left turn pockets and a northbound right turn pocket, dual eastbound left turn pockets and an eastbound right turn pocket, southbound right and left turn pockets, and westbound left and right turn pockets. Access to Western Loop at US 20 would remain open under this option.

FIGURE 10
Traffic Signal Alternative Option A



Pros

- Would meet existing volume-to-capacity mobility target.

- Would create minimal vehicle backups.
- Western Loop at US 20 would remain open.

Cons

- Would not be consistent with driver expectations on a rural highway.
- Would impact the Dairy Queen.
- Would be more expensive to construct than Signal Option B.
- Would stop traffic on US 20 while side street traffic is allowed to cross.

Safety

- Would not remove cross traffic from US 20.
- Drivers may not be prepared for vehicles stopped on the highway at the traffic signal, which may increase the potential for rear-end crashes. Also, the potential for cross traffic conflicts remains, in the case of a mainline vehicle not stopping at the signal while a side street vehicle is crossing.

The cost of the signal alternative is moderate when compared to the other alternatives. This alternative meets the preliminary signal warrants as shown in the warrant analysis in Attachment E. The operational analysis results for the traffic signal alternative can be seen in Table 3, and the queuing analysis results can be seen in Table 4. Attachment E also shows the Traffic Signal HCM Synchro reports and queuing analysis reports.

Traffic Signal Option B. This option would install two coordinated signals on US 20. The first would be located at the OR 229/Business Loop 20 Spur intersection and the second at the Business Loop 20/Western Loop intersection. Western Loop and Business Loop 20 would be realigned to create a four-legged intersection, while current the US 20/OR 229/Business Loop 20 Spur would remain in its current location. Operational and queuing results would be similar to the single traffic signal alternative discussed above. The main northbound and southbound movements would occur at separate intersections and would require fewer turn pockets than Option A. The project team did not conduct a separate cost estimate, but Option B is expected to be slightly less than a single signal.

FIGURE 21
Traffic Signal Alternative Option B

Pros

- Would meet existing volume-to-capacity mobility target.
- Would create minimal vehicle backups.
- Would keep Western Loop open at US 20.
- Would not impact the Dairy Queen.

Cons

- Would not be consistent with driver expectations on a rural highway.
- Would stop traffic on US 20 while side street traffic is allowed to cross.

Safety

- Would not remove cross traffic from US 20.
- Drivers may not be prepared for vehicles stopped on the highway at the traffic signal, which may increase the potential for rear-end crashes. Also, the potential for cross traffic conflicts remains, in the case of a mainline vehicle not stopping at the signal while a side street vehicle is crossing.

Western Junction - Analysis Discussion

Table 3 shows the results of the future build operational analysis at Western Junction, compared with the future no-build analysis taken from Technical Memorandum #3, *Transportation Deficiencies and Needs*. Results that are highlighted black do not meet the mobility targets. Results highlighted grey show areas where there are significant improvements compared to the future no-build, but still do not meet the target. Results that are not highlighted meet the mobility target.

Analysis results show that the traffic signal is the only alternative that meets the ODOT mobility targets. The roundabout alternative shows significant improvement at both intersections and slightly lower delay than the traffic signal alternative. The offset-T alternative shows improvement at both intersections, but significant improvements are only at US 20 and OR 229. The low build alternative shows improvements only at the intersection of US 20 (west) and Business Loop 20.

As expected, several of the alternatives show an increase in delay on US 20. This is a result of the proposed alternatives that improve operations on the side streets. The more successful alternatives that would reduce the overall delay significantly (the roundabout and traffic signal alternatives), would also add some delay to the major roadway approaches.

Table 4 shows the queuing results of the future build analysis, as compared with the future no-build. Results highlighted in black show congestion that has worsened from no-build. Results highlighted in grey show congestion that has improved from no-build.

As expected, queuing increases with some of the alternatives. Any change from the existing free-flow condition along US 20 will result in some additional queuing on the highway. The low build alternative shows some reduction in the critical queue length, specifically the northbound left turn movement at US 20 (west) and Business Loop 20, but overall does not result in significant queuing improvements. The offset-T increases the length of the critical queue. The roundabout and traffic signal alternatives offer significant reductions in queuing for the most critical movements.

TABLE 3
Future Build Alternatives Operational Analysis Results: Western Junction
2035, 30th Highest Hour Volumes

ID	Intersection	Mobility Measure	Roadway Approach	Mobility Target		Alternative Forecast (2035) Mobility				
				No-Build	Build	No-Build	Low Build	Offset-T	Roundabout	Traffic Signal
2	US 20 at OR 229	V/C	Major	0.80	0.70	0.30	0.30	0.41	consolidated to Central Intersection	consolidated to Central Intersection
			Minor	0.90	0.75	**1.71**	**1.72**	*0.80*		
		LOS	Major	N/A	N/A	A	A	A		
			Minor	N/A	N/A	F	F	F		
		Delay (sec unless noted)	Major	N/A	N/A	4	4	11		
			Minor	N/A	N/A	>6 min	>6 min	53		
3	US 20 at Western Loop	V/C	Major	0.80	0.70	0.50	eliminated	eliminated	eliminated	eliminated
			Minor	0.90	0.75	0.12				
		LOS	Major	N/A	N/A	A				
			Minor	E	N/A	E				
		Delay (sec unless noted)	Major	N/A	N/A	0				
			Minor	N/A	N/A	51				
4	US 20 (west) at Business Loop 20	V/C	Major	0.80	0.70	0.79	0.45	0.45	consolidated to Central Intersection	consolidated to Central Intersection
			Minor	0.90	0.75	**>2**	*0.79*	**1.37**		
		LOS	Major	N/A	N/A	A	A	A		
			Minor	E	E	**F**	E	**F**		
		Delay (sec unless noted)	Major	N/A	N/A	0	0	0		
			Minor	N/A	N/A	>11 min	39	>3 min		
5	US 20 Spur at Business Loop 20	V/C	Major	0.80	0.70	0.36	0.36	eliminated	consolidated to Central Intersection	consolidated to Central Intersection
			Minor	0.95	0.80	0.48	0.48			
		LOS	Major	N/A	N/A	A	A			
			Minor	E	E	D	D			
		Delay (sec unless noted)	Major	N/A	N/A	0	0			
			Minor	N/A	N/A	30	30			
NEW	Central Intersection	V/C	Major		0.70				*0.87*	0.53
			Minor		0.75				0.53	
		LOS	Major	N/A	N/A	N/A	N/A	N/A	C	C
			Minor		N/A				B	
		Delay (sec unless noted)	Major		N/A				22	26
			Minor		N/A				12	

Notes:
No-Build V/C Mobility Target Source: Adopted Oregon Highway Plan as Adopted in December 2011 (Table 6)
Future V/C Mobility Target Source: ODOT Highway Design Manual (Table 10-1)
LOS Standards taken from the Toledo TSP Technical Memorandum #3, *Transportation Deficiencies and Needs*
Italic font indicates intersection has a V/C under 1.0, but does not meet mobility target
Bold font indicates intersection does not meet mobility targets

TABLE 4
Future Build Alternatives Queuing Analysis Results: Western Junction
2035, 30th Highest Hour Volumes

ID	Intersection	Approach	Lane Group	Storage (feet)	Alternative Queues (feet)				
					No-Build	Low Build	Offset-T	Roundabout	Traffic Signal
2	US 20 at OR 229	EB	Left	130	140	140	**160**	consolidated to Central Intersection	consolidated to Central Intersection
			Thru	unconstrained	80	**140**	80		
		WB	Left	320	20	20	N/A		
			Thru	unconstrained	20	**50**	**120**		
		NB	Thru/Right	365	230	**380**	N/A		
		SB	Left	80	60	**150**	N/A		
			Thru/Right	unconstrained	1950	1820	*500*		
3	US 20 at Western Loop	EB	Left/Thru	unconstrained	70	eliminated	eliminated	eliminated	eliminated
		WB	Thru/Right	unconstrained	0				
		SB	Left	unconstrained	20				
			Right	unconstrained	10				
4	US 20 (west) at Business Loop 20	EB	Thru/Right	unconstrained	0	20	**90**	consolidated to Central Intersection	consolidated to Central Intersection
		WB	Thru	unconstrained	0	0	**300**		
		NB	Left/Right	350	>1 ½ mi.	*>1 mi.*	**>2 mi.**		
5	US 20 Spur at Business Loop 20	EB	Thru	350	0	0	eliminated	consolidated to Central Intersection	consolidated to Central Intersection
		WB	Thru/Right	unconstrained	>1 ½ mi.	>1 mi.			
		SB	Left	365	90	**100**			
NEW	Central Intersection	EB	Longest queue reported for each approach	unconstrained	N/A	N/A	N/A	**1270**	**260**
		WB		unconstrained				**510**	**350**
		NB		unconstrained				*490*	*340*
		SB		unconstrained				*360*	*140*

Notes:
95th Percentile queues calculated using an average of five, one hour SimTraffic runs
Queue lengths rounded up to the nearest ten feet
Italic font indicates queue has improved from no-build (a 10% or greater change which could represent a noticeable improvement to drivers)
Bold font indicates queue has worsened from no-build (a 10% or greater change which could represent a noticeable impact to drivers)

Business Loop 20 at A Street – Turn Pocket

Business Loop 20 at A Street is the final study area intersection where the project team identified a queuing issue for 2035. There are no congestion concerns at this intersection, but the project team identified vehicle backups on three of the legs. The eastbound approach is expected to experience congestion for the left turn lane and through lane. The westbound approach is expected to have minor congestion for the left turn lane. The northbound approach is anticipated to have limited congestion, but there is concern that queues are expected beyond the railroad crossing south of Business Loop 20.

No-Build Alternative

The 2035 future no-build alternative is a "do nothing" approach (besides basic upkeep and maintenance) for the intersection of Business Loop 20 and A Street. Analysis for this alternative is documented in Technical Memorandum #3. The operational analysis results can be seen in Table 5 and the queuing analysis results can be seen in Table 6. Attachment A shows the No-Build HCM Synchro reports and no-build queuing analysis reports.

Pros

- No additional cost beyond regular maintenance.

Cons

- Increased congestion on Business Loop 20, especially on the eastbound approach.

Safety

- Increased congestion on A street extending south past the railroad crossing.

Right Turn Pocket

Due to the slopes nearby at this intersection, improvement options are limited. This alternative would lengthen the eastbound left turn pocket to 200 feet and would add a 150 foot eastbound right turn pocket. Lengthening the left turn pocket will provide space for vehicles to queue up without blocking the through movement on Business Loop 20. The right turn pocket will help vehicles get through the intersection more quickly and allow for some green time to be allocated to other approaches.

Pros

- Would decrease congestion and vehicle backups.

Cons

- Existing slopes make adding a new turn pocket expensive due to retaining walls for the hill.

Safety

- This intersection would still have vehicle backups extending beyond the railroad crossing.

The queues at this intersection would improve on nearly every approach; however, the northbound approach would still have vehicle queues that extend beyond the railroad crossing. With the physical limitations, maintenance at the railroad crossing will be important. Signs should be upgraded to current standards and pavement markings should be well maintained to help drivers recognize the railroad crossing and avoid stopping over the tracks in the event of a long backup.

The operational analysis results for the Business Loop 20 and A Street alternative can be seen in Table 5, and the queuing analysis results can be seen in Table 6. Attachment F shows the Business Loop 20 and A Street Synchro reports and queuing analysis reports.

Business Loop 20 at A Street - Analysis Discussion

Operational analysis results in Table 5 show that the intersection of Business Loop 20 and A Street is functioning well within the City's mobility standards.

TABLE 5
Future Build Alternatives Operational Analysis Results: Business Loop 20 at A Street
2035, 30th Highest Hour Volumes

ID	Intersection	Mobility Measure	Mobility Standard		Alternative Forecast (2035) Mobility	
			No-Build	Build	No-Build	Right Turn Pocket
7	Business Loop 20 at A Street	V/C	1.0	1.0	0.79	0.65
		LOS	D	D	C	C
		Delay (sec unless noted)	D	D	31	24

Notes:
Mobility Standards taken from the Toledo TSP Technical Memorandum #3, *Transportation Deficiencies and Needs*

Table 6 shows that three of the approaches would have decreased congestion at the intersection. The eastbound left turn pocket congestion would not decrease, but extending the pocket length to 200 feet would allow these vehicles to queue up without blocking through traffic on Business Loop 20.

TABLE 6
Future Build Alternatives Queuing Analysis Results: Business Loop 20 at A Street
2035, 30th Highest Hour Volumes

ID	Intersection	Approach	Lane Group	Storage (feet)	Alternative Queues (feet)	
					No-Build	Right Turn Pocket
7	Business Loop 20 at A Street	EB	Left	60	180	180
			Thru/Right	650	1040	*410*
		WB	Left	15	30	30
			Thru/Right	700	210	200
		NB	Lt/Th/Rt	160 (to RR xing)	310	*240*
		SB	Lt/Th/Rt	330	100	*80*

Notes:
95th Percentile queues calculated using an average of five, one hour SimTraffic runs
Queue lengths rounded up to the nearest ten feet
Italic font indicates queue has improved from no-build (a 10% or greater change which could represent a noticeable improvement to drivers)

East Slope Road Realignment

East Slope Road connects Business Loop 20 to SE 10th Street and could provide an alternate freight route off of Sturdevant. However, the connection between East Slope Road and Business Loop 20 is currently too steep for freight trucks to navigate. This project would realign the vertical curve on East Slope Road east of Business Loop 20 to a gentler slope to improve the route for future freight trucks. If this project is included in the TSP and moves forward into construction, the City could then consider changing the existing freight truck route from Sturdevant Road to East Slope Road.

Burgess Road Realignment

Burgess Road meets Business Loop 20 at a steep angle, potentially creating a safety issue for vehicles making turns onto Business Loop 20. The project team recommends realigning Burgess to meet Business Loop 20 at a 90 degree angle. Realigning Burgess would potentially impact nearby properties at the intersection and would require retaining walls or fill because of the hillside and grade of the existing road. Only minor impacts to Business Loop 20 are expected with the realignment.

Sturdevant Road Realignment

This project would reduce the curves on Sturdevant Road south of SE 10th Street to the Siletz Kiln Site along the river. Realigning the road would allow larger trucks to access the kiln site to move materials and finished products into and out of the site. Currently, Sturdevant Road is narrow and curving, and this project would reduce the curves and add shoulders to accommodate freight truck traffic.

A Street Railroad Crossing Improvements

The *Toledo Waterfront Connectivity Plan* includes a project to improve the railroad crossing pavement surface for motorists, bicyclists, and pedestrians by installing concrete panels on A Street at the PNWR crossing.

Butler Bridge Road and NW 1st Street Changes

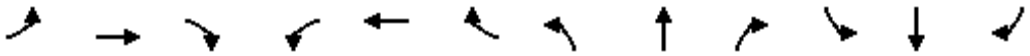
The *Toledo Waterfront Connectivity Plan* includes a project to improve visibility, increase safety for pedestrians and motorists, and reduce conflict points at this intersection. The project would convert NW 1st Street from a two-way to a one-way street westbound between Main Street and Butler Bridge Road. This project would remove vehicle conflicts and emphasizes the dominant flow of traffic (turning east on NW 1st from A Street and then south on Butler Bridge Road, and north on Butler Bridge Road, onto NW 1st and north onto A Street) and addresses visibility issues for motorists stopped eastbound. Currently rail car storage reduces sight distance at the intersection. Eastbound drivers would be able to access Main Street one block south at NW Graham Street. The project also includes curb extensions at the intersection, a 10 foot wide ladder style crosswalk across NW 1st Street, and directs pedestrians to and improved crosswalk on the north side of the intersection, deterring them from crossing on the south side. The eastbound stop sign on NW 1st Street at the railroad tracks would be removed, as all traffic would continue south on Butler Bridge Road.

Next Steps

The PMT, PAC, and community will review the alternatives presented in this technical memorandum and the other modal technical memoranda. Alternatives that meet the TSP project goals will be refined and included in the TSP document.

Attachment A

No-Build



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	305	430	0	15	450	0	0	90	25	0	100	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	321	453	0	16	474	0	0	100	28	0	111	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	474			453			1750	1600	453	1678	1600	474
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474			453			1750	1600	453	1678	1600	474
tC, single (s)	4.1			4.2			7.2	6.6	6.3	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	70			99			0	0	95	0	0	84
cM capacity (veh/h)	1083			1087			0	69	583	0	72	583

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	321	453	16	474	128	206
Volume Left	321	0	16	0	0	0
Volume Right	0	0	0	0	28	94
cSH	1083	1700	1087	1700	85	120
Volume to Capacity	0.30	0.27	0.01	0.28	1.50	1.71
Queue Length 95th (ft)	31	0	1	0	252	389
Control Delay (s)	9.7	0.0	8.4	0.0	360.9	413.1
Lane LOS	A		A		F	F
Approach Delay (s)	4.0		0.3		360.9	413.1
Approach LOS					F	F

Intersection Summary				
Average Delay	84.1			
Intersection Capacity Utilization	65.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	395	0	15	185	0	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	439	0	17	206	0	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			439		678	439
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			439		678	439
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			98		100	94
cM capacity (veh/h)			1100		405	610

Direction, Lane #	NB 1	SB 1	NW 1
Volume Total	439	222	35
Volume Left	0	17	0
Volume Right	0	0	35
cSH	1700	1100	610
Volume to Capacity	0.26	0.02	0.06
Queue Length 95th (ft)	0	1	5
Control Delay (s)	0.0	0.8	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	11.3
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (veh/h)	15	0	0	455	465	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	18	0	0	479	489	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	968	489	521			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	968	489	521			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	94	100	100			
cM capacity (veh/h)	277	579	1040			

Direction, Lane #	SE 1	NE 1	SW 1	SW 2
Volume Total	18	479	489	32
Volume Left	18	0	0	0
Volume Right	0	0	0	32
cSH	277	1700	1700	1700
Volume to Capacity	0.06	0.28	0.29	0.02
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	18.9	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	18.9	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	1265	810	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	5	1332	853	5	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	853				2197	855
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	853				2197	855
tC, single (s)	4.1				*6.3	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				89	98
cM capacity (veh/h)	778				53	361

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	1337	858	12
Volume Left	5	0	6
Volume Right	0	5	6
cSH	778	1700	106
Volume to Capacity	0.01	0.50	0.11
Queue Length 95th (ft)	1	0	9
Control Delay (s)	0.3	0.0	48.3
Lane LOS	A		E
Approach Delay (s)	0.3	0.0	48.3
Approach LOS			E

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

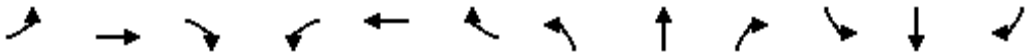
* User Entered Value

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	725	545	0	535	280	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	763	574	0	563	329	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1337		1613	1050
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1337		1613	1050
tC, single (s)			4.1		*5.9	*5.7
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		0	96
cM capacity (veh/h)			506		144	321

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1337	563	341
Volume Left	0	0	329
Volume Right	574	0	12
cSH	1700	1700	147
Volume to Capacity	0.79	0.33	2.32
Queue Length 95th (ft)	0	0	718
Control Delay (s)	0.0	0.0	662.7
Lane LOS			F
Approach Delay (s)	0.0	0.0	662.7
Approach LOS			F

Intersection Summary			
Average Delay	100.9		
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	470	170	10	220	60	170	40	30	40	15	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	15	12	12	13	12	12	16	12	12	16	16
Grade (%)		0%			0%			10%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.97			0.98			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1614	1783		1646	1733			1697			1748	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1614	1783		1646	1733			1697			1748	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.86	0.86	0.86
Adj. Flow (vph)	128	522	189	11	244	67	200	47	35	47	17	87
RTOR Reduction (vph)	0	13	0	0	10	0	0	6	0	0	58	0
Lane Group Flow (vph)	128	698	0	11	301	0	0	276	0	0	93	0
Confl. Peds. (#/hr)			2						4			6
Confl. Bikes (#/hr)					1				1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	5%	5%	5%	1%	1%	1%
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	9.1	35.6		0.7	27.2			16.2			9.4	
Effective Green, g (s)	9.1	35.6		0.7	27.2			16.2			9.4	
Actuated g/C Ratio	0.12	0.46		0.01	0.35			0.21			0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	189	815		15	605			353			211	
v/s Ratio Prot	c0.08	c0.39		0.01	0.17			c0.16			c0.05	
v/s Ratio Perm												
v/c Ratio	0.68	0.86		0.73	0.50			0.78			0.44	
Uniform Delay, d1	33.0	18.9		38.5	20.0			29.2			31.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	9.2	8.8		103.2	0.6			10.8			1.5	
Delay (s)	42.2	27.7		141.7	20.6			40.0			33.3	
Level of Service	D	C		F	C			D			C	
Approach Delay (s)		29.9			24.8			40.0			33.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 1: US 20 & Arcadia Drive

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	10	46	174
Average Queue (ft)	0	14	61
95th Queue (ft)	5	41	131
Link Distance (ft)	560		917
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: US 20 & OR 229

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	TR
Maximum Queue (ft)	148	169	20	43	288	197
Average Queue (ft)	69	7	1	2	80	171
95th Queue (ft)	132	71	11	19	222	238
Link Distance (ft)		530		208	390	180
Upstream Blk Time (%)						60
Queuing Penalty (veh)						112
Storage Bay Dist (ft)	130		320			
Storage Blk Time (%)	1					
Queuing Penalty (veh)	5					

Intersection: 3: US 20 & Western Loop

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	142	28	4
Average Queue (ft)	8	5	0
95th Queue (ft)	65	19	3
Link Distance (ft)	8862	2050	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			100
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: US 20 (west) & Bus Loop 20

Movement	NB
Directions Served	LR
Maximum Queue (ft)	368
Average Queue (ft)	358
95th Queue (ft)	369
Link Distance (ft)	349
Upstream Blk Time (%)	76
Queuing Penalty (veh)	221
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Bus Loop 20 & US 20 (spur)

Movement	WB	B15	B16	SB
Directions Served	TR	T	T	L
Maximum Queue (ft)	636	3044	3237	115
Average Queue (ft)	579	2331	977	47
95th Queue (ft)	681	3967	3014	88
Link Distance (ft)	509	2920	7815	390
Upstream Blk Time (%)	85	47		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Channelized Turn & OR 229

Movement	WB	SB
Directions Served	R	LT
Maximum Queue (ft)	66	1010
Average Queue (ft)	22	621
95th Queue (ft)	53	1709
Link Distance (ft)	91	2863
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 200: Channelized Turn & US 20

Movement	EB
Directions Served	L
Maximum Queue (ft)	76
Average Queue (ft)	16
95th Queue (ft)	51
Link Distance (ft)	91
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 337

Intersection: 6: Bus Loop 20 & Yaquina Bay Road

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	104	109	126	189
Average Queue (ft)	10	40	4	71
95th Queue (ft)	95	94	76	146
Link Distance (ft)	560		1439	1788
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		90		
Storage Blk Time (%)		2		
Queuing Penalty (veh)		6		

Intersection: 7: Bus Loop 20 & A Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	174	1043	36	256	365	125
Average Queue (ft)	85	471	5	106	172	44
95th Queue (ft)	173	1033	22	206	307	94
Link Distance (ft)		1439		658	6015	3120
Upstream Blk Time (%)		1				
Queuing Penalty (veh)		5				
Storage Bay Dist (ft)	150		15			
Storage Blk Time (%)	1	25	8	32		
Queuing Penalty (veh)	7	29	22	3		

Intersection: 8: Bus Loop 20 & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	148	57	149	72
Average Queue (ft)	18	5	53	29
95th Queue (ft)	79	28	109	57
Link Distance (ft)	658	524	3275	305
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Attachment B

Low Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	310	425	0	15	445	0	0	90	25	0	100	90
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	326	447	0	16	468	0	0	100	28	0	111	100
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	468			447			1756	1600	447	1678	1600	468
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	468			447			1756	1600	447	1678	1600	468
tC, single (s)	4.1			4.2			7.2	6.6	6.3	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	70			99			0	0	95	0	0	83
cM capacity (veh/h)	1088			1092			0	69	587	0	72	587

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	326	447	16	468	128	211
Volume Left	326	0	16	0	0	0
Volume Right	0	0	0	0	28	100
cSH	1088	1700	1092	1700	85	123
Volume to Capacity	0.30	0.26	0.01	0.28	1.50	1.72
Queue Length 95th (ft)	32	0	1	0	252	400
Control Delay (s)	9.7	0.0	8.3	0.0	364.2	418.4
Lane LOS	A		A		F	F
Approach Delay (s)	4.1		0.3		364.2	418.4
Approach LOS					F	F

Intersection Summary				
Average Delay	86.5			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	400	0	20	190	0	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	444	0	22	211	0	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			444		700	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			444		700	444
tC, single (s)			4.2		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.4
p0 queue free %			98		100	93
cM capacity (veh/h)			1095		391	605

Direction, Lane #	NB 1	SB 1	NW 1
Volume Total	444	233	41
Volume Left	0	22	0
Volume Right	0	0	41
cSH	1700	1095	605
Volume to Capacity	0.26	0.02	0.07
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	1.0	11.4
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Volume (veh/h)	20	0	0	450	460	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	0	0	474	484	37
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	958	484	521			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	958	484	521			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	92	100	100			
cM capacity (veh/h)	281	583	1040			

Direction, Lane #	SE 1	NE 1	SW 1	SW 2
Volume Total	24	474	484	37
Volume Left	24	0	0	0
Volume Right	0	0	0	37
cSH	281	1700	1700	1700
Volume to Capacity	0.08	0.28	0.28	0.02
Queue Length 95th (ft)	7	0	0	0
Control Delay (s)	19.0	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.0	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Volume (veh/h)	725	545	0	535	280	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	763	574	0	563	329	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			763		1326	763
vC1, stage 1 conf vol					763	
vC2, stage 2 conf vol					563	
vCu, unblocked vol			763		1326	763
tC, single (s)			4.1		*5.9	*5.7
tC, 2 stage (s)					4.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		23	97
cM capacity (veh/h)			836		429	450

Direction, Lane #	EB 1	EB 2	WB 1	NW 1
Volume Total	763	574	563	341
Volume Left	0	0	0	329
Volume Right	0	574	0	12
cSH	1700	1700	1700	429
Volume to Capacity	0.45	0.34	0.33	0.79
Queue Length 95th (ft)	0	0	0	177
Control Delay (s)	0.0	0.0	0.0	38.8
Lane LOS				E
Approach Delay (s)	0.0		0.0	38.8
Approach LOS				E

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	545	290	115	115	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	606	322	128	128	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	450				992	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	450				992	386
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	100				52	100
cM capacity (veh/h)	1100				268	662

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	606	450	128
Volume Left	0	0	128
Volume Right	0	128	0
cSH	1700	1700	268
Volume to Capacity	0.36	0.26	0.48
Queue Length 95th (ft)	0	0	60
Control Delay (s)	0.0	0.0	30.1
Lane LOS			D
Approach Delay (s)	0.0	0.0	30.1
Approach LOS			D

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 2: US 20 & OR 229

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	TR
Maximum Queue (ft)	153	156	27	76	316	130
Average Queue (ft)	67	15	2	14	158	117
95th Queue (ft)	133	138	13	44	373	129
Link Distance (ft)		511		103	390	110
Upstream Blk Time (%)		0		0	6	76
Queuing Penalty (veh)		0		0	6	144
Storage Bay Dist (ft)	130		200			
Storage Blk Time (%)	2			0		
Queuing Penalty (veh)	10			0		

Intersection: 4: US 20 (west) & Bus Loop 20

Movement	EB	NW
Directions Served	T	LR
Maximum Queue (ft)	36	346
Average Queue (ft)	2	330
95th Queue (ft)	21	377
Link Distance (ft)	686	327
Upstream Blk Time (%)		70
Queuing Penalty (veh)		204
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Bus Loop 20 & US 20 (spur)

Movement	WB	B15	B16	B6	SB
Directions Served	TR	T	T	T	L
Maximum Queue (ft)	639	3044	624	1371	125
Average Queue (ft)	590	2303	241	323	49
95th Queue (ft)	652	3884	737	1290	92
Link Distance (ft)	509	2920	563	5695	390
Upstream Blk Time (%)	85	38	27		
Queuing Penalty (veh)	0	0	0		
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 20: OR 229 & Channelized Turn

Movement	NB	SB	NW
Directions Served	T	LT	R
Maximum Queue (ft)	23	1243	69
Average Queue (ft)	1	834	23
95th Queue (ft)	11	1683	52
Link Distance (ft)	110	1546	41
Upstream Blk Time (%)		19	1
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 200: Channelized Turn & US 20

Movement	SE	SW	SW
Directions Served	L	T	R
Maximum Queue (ft)	68	36	36
Average Queue (ft)	15	1	2
95th Queue (ft)	46	19	17
Link Distance (ft)	41	1034	
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			100
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty: 365

Attachment C

Offset-T

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	400	450	460	35	20	190
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	421	474	484	37	22	211
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	521				1800	484
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	521				1800	484
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	59				56	64
cM capacity (veh/h)	1030				51	583

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	421	474	484	37	233
Volume Left	421	0	0	0	22
Volume Right	0	0	0	37	211
cSH	1030	1700	1700	1700	291
Volume to Capacity	0.41	0.28	0.28	0.02	0.80
Queue Length 95th (ft)	51	0	0	0	160
Control Delay (s)	10.9	0.0	0.0	0.0	52.9
Lane LOS	B				F
Approach Delay (s)	5.1		0.0		52.9
Approach LOS					F

Intersection Summary			
Average Delay	10.3		
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	725	545	115	535	280	125
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	763	574	121	563	329	147
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						8
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1337		1568	763
vC1, stage 1 conf vol					763	
vC2, stage 2 conf vol					805	
vCu, unblocked vol			1337		1568	763
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.4
p0 queue free %			76		0	63
cM capacity (veh/h)			506		273	398

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	763	574	121	563	476
Volume Left	0	0	121	0	329
Volume Right	0	574	0	0	147
cSH	1700	1700	506	1700	349
Volume to Capacity	0.45	0.34	0.24	0.33	1.37
Queue Length 95th (ft)	0	0	23	0	588
Control Delay (s)	0.0	0.0	14.3	0.0	212.0
Lane LOS			B		F
Approach Delay (s)	0.0		2.5		212.0
Approach LOS					F

Intersection Summary			
Average Delay	41.1		
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

Intersection: 2: US 20 & OR 229

Movement	EB	EB	WB	WB	SB	B20
Directions Served	L	T	T	R	LR	T
Maximum Queue (ft)	198	78	111	60	197	324
Average Queue (ft)	87	5	9	3	102	64
95th Queue (ft)	160	78	113	35	196	297
Link Distance (ft)		772	1032		116	1546
Upstream Blk Time (%)					23	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	250			200		
Storage Blk Time (%)	0		1	0		
Queuing Penalty (veh)	0		0	0		

Intersection: 4: US 20 (west) & Bus Loop 20

Movement	EB	EB	WB	WB	NB	NB	B5	B15	B16
Directions Served	T	R	L	T	L	R	T	T	T
Maximum Queue (ft)	29	94	273	466	450	225	633	3034	7138
Average Queue (ft)	1	35	113	43	403	89	589	2641	3089
95th Queue (ft)	13	81	239	293	431	267	643	3934	7123
Link Distance (ft)	1499			772	328		514	2920	10435
Upstream Blk Time (%)				1	97		94	73	
Queuing Penalty (veh)				6	0		0	0	
Storage Bay Dist (ft)		200	250			200			
Storage Blk Time (%)			4		98	0			
Queuing Penalty (veh)			24		123	1			

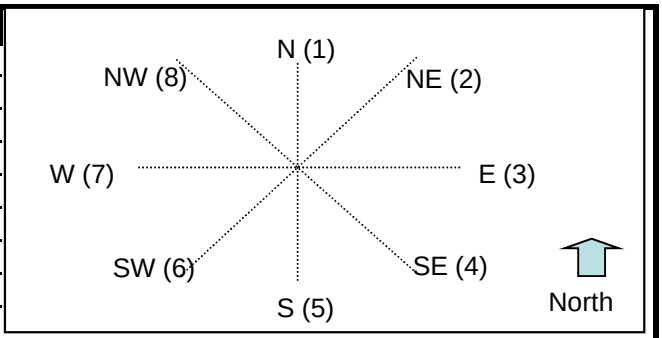
Zone Summary

Zone wide Queuing Penalty: 154

Attachment D

Roundabout

General & Site Information	
Analyst:	A. Henriques
Agency/Company:	CH2M HILL
Date:	2/12/2012
Project Name:	Toledo TSP
Intersection:	US 20 & BUS 20 Loop W. Jct
Analysis Time Period:	Future Alternatives Analysis
Jurisdiction:	ODOT and City of Toledo
Year:	2035



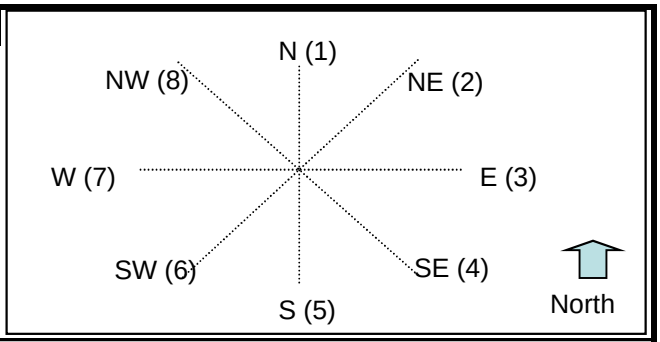
Volumes		Roundabout Approach/Entry Legs							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Input Volumes to Leg #	N (1), vph	0		35		95		305	
	NE (2), vph								
	E (3), vph	20		0		30		420	
	SE (4), vph								
	S (5), vph	100		15		0		545	
	SW (6), vph								
	W (7), vph	90		445		280		0	
	NW (8), vph								
Output	Total Vehicles	210	0	495	0	405	0	1270	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Trucks	6.0	0.0	6.0	0.0	6.0	0.0	4.0	0.0
E_t	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PHF	0.90	0.92	0.95	0.92	0.90	0.92	0.95	0.92
F_{HV}	0.943	1.000	0.943	1.000	0.943	1.000	0.962	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	39	0	112	0	334	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	24	0	0	0	35	0	460	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	118	0	17	0	0	0	597	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	106	0	497	0	330	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	247	0	552	0	477	0	1390	0
Conflicting flow, pcu/h	843	1328	776	1294	817	1548	158	1090

Results	N	NE	E	SE	S	SW	W	NW
Entry Capacity, pcu/h	486	NA	520	NA	499	NA	965	NA
Leg v/c ratio	0.51		1.06		0.96		1.44	
Control Delay, s/pcu	14.8		79.9		53.8		213.7	
LOS	B		F		F		F	
95th Percentile Queue (ft)	355	0	836	0	684	0	2083	0
	Single lane OK		Multilane required		Multilane required		Multilane required	

General & Site Information	
Analyst:	A. Henriques
Agency/Company:	CH2M HILL
Date:	12/17/2012
Project Name:	Toledo TSP
Intersection:	US 20 & BUS 20 Loop W. Jct
Analysis Time Period:	Future Alternatives Analysis
Jurisdiction:	ODOT and City of Toledo
Year:	2035



Volumes		Roundabout Approach/Entry Legs							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Volumes	N (1), vph	0	0			0	35		
to Leg #	NE (2), vph								
	E (3), vph	0	20			0	0		
	SE (4), vph								
	S (5), vph	35	65			15	0		
	SW (6), vph								
	W (7), vph	90	0			155	290		
	NW (8), vph								
	Entry Volume, vph	125	85	0	0	170	325	0	0
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	N (1), vph	33	62			305	0		
	NE (2), vph								
	E (3), vph	0	30			147	273		
	SE (4), vph								
	S (5), vph	0	0			0	545		
	SW (6), vph								
	W (7), vph	280	0			0	0		
	NW (8), vph								
	Entry Volume, vph	313	92	0	0	452	818	0	0

Critical Lane Volumes	N	NE	E	SE	S	SW	W	NW
N (1), vph	0	0	35	0	33	0	0	0
NE (2), vph	0	0	0	0	0	0	0	0
E (3), vph	0	0	0	0	0	0	273	0
SE (4), vph	0	0	0	0	0	0	0	0
S (5), vph	35	0	0	0	0	0	545	0
SW (6), vph	0	0	0	0	0	0	0	0
W (7), vph	90	0	290	0	280	0	0	0
NW (8), vph	0	0	0	0	0	0	0	0
Entry Volume, vph	125	0	325	0	313	0	818	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
E_t	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
% Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F_{hv}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows		N	NE	E	SE	S	SW	W	NW
Flow to	N (1), pcu/h	0	0	38	0	103	0	332	0
Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	22	0	0	0	33	0	457	0

SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	109	0	16	0	0	0	592	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	98	0	484	0	304	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Conflicting flow, pcu/h	804	1277	739	1250	810	1527	147	1033

Results	**N**	**NE**	**E**	**SE**	**S**	**SW**	**W**	**NW**
Crit. Entry Capacity pcu/h	644	NA	674	NA	641	NA	1020	NA
Crit. Lane Entry Flow pcu/h	136	0	353	0	340	0	889	0
Leg v/c ratio	0.21		0.52		0.53		0.87	
Control Delay s/pcu	7.1		11.1		11.8		21.8	
LOS	A		B		B		C	
95th Percentile Queue ft	193	0	501	0	483	0	1261	0

Assumptions:
Close the Western Loop access to US 20
Single-lane approach OK for north leg

Attachment E

Traffic Signal

Major Street:	US 20
Minor Street:	OR 229
Project Name:	Toledo TSP
City/County:	Toledo/Lincoln County
Analysis Year:	2035
Alternative:	Traffic Signal
Meet 70% Warrants?:	Yes
	70%

Major	
Approach Lanes:	2
Minor	
Approach Lanes:	2
Major	
Approach Volumes (vph):	1765
Minor	
Approach Volume (vph):	405
Right Turn Volume (vph):	30
Capacity of Shared/Exclusive Right Turn Lane[1]:	639
Right Turn Discount:	543
Right Turn Volume included in Warrant:	0
Minor Approach Volume in Warrant:	375
Major Approach K factor:	10
Minor Approach K factor:	10

[1] Capacity obtained from unsignalized intersection analysis
For guidance on preliminary signal warrant analysis, refer to the Analysis Procedures Manual.

Last Updated: February 2009

Oregon Department of Transportation
Transportation Development Branch
Transportation Planning Analysis Unit

Preliminary Traffic Signal Warrant Analysis[1]

Major Street: US 20	**Minor Street:** OR 229
Project: Toledo TSP	**City/County:** Toledo/Lincoln County
Year: 2035	**Alternative:** Traffic Signal

Preliminary Signal Warrant Volumes

Number of Approach lanes		ADT on major street approaching from both directions		ADT on minor street, highest approaching volume	
Major Street	Minor Street	Percent of standard warrants 100	70	Percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500
Case B: Interruption of Continuous Traffic					
1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250
	100 percent of standard warrants				
X	70 percent of standard warrants[2]				

Preliminary Signal Warrant Calculation

	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	2	7400	17650	Y
	Minor	2	2500	3750	
Case B	Major	2	11100	17650	Y
	Minor	2	1250	3750	

Analyst and Date: Reviewer and Date:

[1] Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. When preliminary signal warrants are met, project analysts need to coordinate with Region Traffic to initiate the traffic signal engineering investigation as outlined in the Traffic Manual. Before a signal can be installed, the engineering investigation must be conducted or reviewed by the Region Traffic Manager who will forward signal recommendations to headquarters. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

[2] Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	420	545	15	445	35	280	95	30	20	100	90
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	13	16	12	13	15	12	12	13	12	12	13	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3236	3659	1444	1621	3450	1403	2829	1586	1305	1568	1706	1403
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3236	3659	1444	1621	3450	1403	2829	1586	1305	1568	1706	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	321	442	574	16	468	37	311	106	33	22	111	100
RTOR Reduction (vph)	0	0	379	0	0	29	0	0	20	0	0	73
Lane Group Flow (vph)	321	442	195	16	468	8	311	106	13	22	111	27
Heavy Vehicles (%)	3%	3%	3%	6%	6%	6%	14%	14%	14%	6%	6%	6%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases			2			6			4			8
Actuated Green, G (s)	9.8	23.8	23.8	0.8	14.8	14.8	10.6	27.8	27.8	1.6	18.8	18.8
Effective Green, g (s)	9.8	23.8	23.8	0.8	14.8	14.8	10.6	27.8	27.8	1.6	18.8	18.8
Actuated g/C Ratio	0.14	0.34	0.34	0.01	0.21	0.21	0.15	0.40	0.40	0.02	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	453	1244	491	19	729	297	428	630	518	36	458	377
v/s Ratio Prot	c0.10	0.12		0.01	c0.14		c0.11	0.07		0.01	c0.07	
v/s Ratio Perm			0.14			0.01			0.01			0.02
v/c Ratio	0.71	0.36	0.40	0.84	0.64	0.03	0.73	0.17	0.03	0.61	0.24	0.07
Uniform Delay, d1	28.7	17.3	17.6	34.5	25.2	21.9	28.3	13.6	12.8	33.9	20.0	19.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.0	0.8	2.4	131.7	4.3	0.2	6.1	0.6	0.1	27.0	1.3	0.4
Delay (s)	33.8	18.1	20.0	166.3	29.5	22.1	34.4	14.2	12.9	60.9	21.3	19.5
Level of Service	C	B	C	F	C	C	C	B	B	E	C	B
Approach Delay (s)		22.7			33.2			28.0			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection: 2: US 20 & OR 229

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	L	L	T
Maximum Queue (ft)	287	312	178	127	241	106	375	325	122	268	277	310
Average Queue (ft)	159	114	57	62	90	21	213	129	24	172	144	74
95th Queue (ft)	257	247	124	112	181	78	346	259	71	272	280	233
Link Distance (ft)			725	725			680	680				308
Upstream Blk Time (%)										0	0	1
Queuing Penalty (veh)										0	0	6
Storage Bay Dist (ft)	300	300			250	100			100	350	350	
Storage Blk Time (%)	0	1			0	0	44	9	0	0	0	2
Queuing Penalty (veh)	0	1			0	0	7	3	0	0	1	6

Intersection: 2: US 20 & OR 229

Movement	NB	B5	SB	SB	SB
Directions Served	R	T	L	T	R
Maximum Queue (ft)	106	112	78	194	104
Average Queue (ft)	18	12	18	60	28
95th Queue (ft)	64	102	53	140	71
Link Distance (ft)		396		968	
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)	100		100		100
Storage Blk Time (%)	0		0	3	0
Queuing Penalty (veh)	0		0	3	0

Attachment F

Right Turn Pocket

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	470	170	10	220	60	170	40	30	40	15	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	15	12	12	13	12	12	16	12	12	16	16
Grade (%)		0%			0%			10%			0%	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00			0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.97			0.98			0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1614	1869	1410	1646	1733			1698			1751	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1614	1869	1410	1646	1733			1698			1751	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.86	0.86	0.86
Adj. Flow (vph)	128	522	189	11	244	67	200	47	35	47	17	87
RTOR Reduction (vph)	0	0	105	0	12	0	0	7	0	0	74	0
Lane Group Flow (vph)	128	522	84	11	299	0	0	275	0	0	77	0
Confl. Peds. (#/hr)			2						4			6
Confl. Bikes (#/hr)					1				1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	5%	5%	5%	1%	1%	1%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	6.5	25.4	25.4	0.7	19.6			14.5			6.6	
Effective Green, g (s)	6.5	25.4	25.4	0.7	19.6			14.5			6.6	
Actuated g/C Ratio	0.10	0.40	0.40	0.01	0.31			0.23			0.10	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	166	751	567	18	537			390			183	
v/s Ratio Prot	c0.08	c0.28		0.01	0.17			c0.16			c0.04	
v/s Ratio Perm			0.06									
v/c Ratio	0.77	0.70	0.15	0.61	0.56			0.71			0.42	
Uniform Delay, d1	27.6	15.7	12.0	31.1	18.2			22.4			26.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	19.6	2.8	0.1	48.7	1.3			5.7			1.6	
Delay (s)	47.2	18.5	12.1	79.8	19.4			28.1			28.1	
Level of Service	D	B	B	E	B			C			C	
Approach Delay (s)		21.4			21.5			28.1			28.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 7: Bus Loop 20 & A Street

Movement	EB	EB	EB	WB	WB	NB	SB
Directions Served	L	T	R	L	TR	LTR	LTR
Maximum Queue (ft)	224	584	175	36	225	271	102
Average Queue (ft)	75	173	37	6	101	138	38
95th Queue (ft)	171	405	143	23	195	235	78
Link Distance (ft)		1441			658	6020	3120
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200		150	15			
Storage Blk Time (%)	0	7	0	6	31		
Queuing Penalty (veh)	1	21	1	18	3		

Toledo TSP: Local Pedestrian and Bicycle Systems

This memorandum describes the potential policies and projects for the Toledo TSP to address deficiencies and needs identified in Technical Memorandum #3 (November 2012). These are alternatives for projects and policies and will be reviewed by the Project Management Team (PMT), the Project Advisory Committee (PAC), and the general public before they are included in the TSP. Projects and programs will be compared against the TSP goals, and those that best meet the goals will be included in the TSP. The project team developed these alternatives with input from stakeholders and community members.

The City of Toledo has an existing pedestrian and bicycle network that serves local residents and employees, downtown visitors, and long-distance bicyclists. The alternatives for bicycle and pedestrian projects and policies are discussed below. Projects and policies that address other modes in Toledo the roadway system are included in other memoranda[1]. Planning level cost estimates for the projects and programs for all transportation modes are included in Technical Memorandum #8.

Pedestrian and Bicycle System Needs

Overall, Toledo has a number of challenges to providing comprehensive pedestrian and bicycle connections due to the City's geography. Many roads are narrow and have sharp curves and steep grades because of natural features such as the river, sloughs, and slopes. The sidewalk network in Toledo is most complete in downtown and becomes piecemeal further away from Main Street. Outside of downtown, many arterials and collectors lack sidewalks, such as Business Loop 20 outside of the core commercial areas (east of JC Thriftway and West of NW 6th Street). Some roads have sidewalks on one side of the street. There are few officially striped pedestrian crossings along most streets and the railroad tracks.

Increased pedestrian access to the Toledo Elementary and Junior/Senior High Schools is a community priority. The lack of a path or sidewalk along Sturdevant Road is also a major concern due to the 45 mph speed limit and high truck traffic. There are also limited east-west connections between downtown and Sturdevant Road, and some students walk along the shoulder of Business Loop 20 from the neighborhoods in the center of town to school. In addition, community members are concerned with the lack of pedestrian facilities near the Flowerree Community Center at SE 3rd and Douglas Streets. Another priority for local residents is connecting the existing path along East Slope Road to Butler Bridge Road.

There are two bike routes in Toledo; Bay Boulevard and East Slope Road between 10th Street and Business Loop 20. However, the routes do not provide a continuous route through the city. Bay Boulevard is popular among bicycle clubs for the route to and from Newport, though the lack of bicycle lanes and steep grades create safety concerns for riders. There are also no wayfinding signs and the steep local streets can also discourage cycling in Toledo.

Pedestrian Network Alternatives

The following section describes the proposed projects and policy alternatives for the sidewalk system in Toledo. Figure 1 at the end of this memo shows the pedestrian project alternatives in Toledo. The City recognizes that bicycling and walking are important to the community; active modes such as bicycling and walking promote healthier lifestyles, reduce reliance on fossil fuels, and can enhance community cohesion and character. Bicycling and walking, however can raise safety concerns. The following policy addresses some of those safety concerns, and the project alternatives included in this memo also work to decrease safety concerns for bicyclists and pedestrians.

[1] Technical Memorandum #4 Transportation System Proposed Improvements
Technical Memorandum #6 Local Transit System
Technical Memorandum #7 Rail, Air, Water, and Pipeline Improvements

- **Policy 1:** Work with emergency services/schools to create and implement a bicycle, pedestrian, and driver safety education program to encourage safe walking, cycling, and driving behavior.

Fill Sidewalk Gaps

There are several gaps in the sidewalk network in Toledo that were identified as major community needs. Filling these sidewalks gaps would improve the pedestrian network and enhance access to important destinations. These are the high priority alternatives include:

- **Project 1: Burgess Road Sidewalk** between Arcadia Drive and Business Loop 20. There is currently a short sidewalk on the west side of the road in front of the fire station, but the segment does not connect to Arcadia Drive or Business Loop 20. This sidewalk would connect to marked pedestrian crossings on both Arcadia Drive and Business Loop 20.
- **Project 2: Business Loop 20 Sidewalk** from East Slope Road to Sturdevant Road. Currently there is a sidewalk on the east side of the road that ends at East Slope Road. Students walk along Business Loop 20 to Sturdevant Road to access Toledo Elementary and Junior/Senior High Schools. Runners, walkers, and the high school cross country team also use this route.
- **Project 3: Douglas Street/SE 3rd Street Sidewalk** around Flowerree Community Center. The Community Center is surrounded by Beech, Douglas, SE 3rd, and SE 4th Streets in southeast Toledo. This block does not have sidewalks except along SE 3rd Street. However, SE 3rd and Douglas Streets both have sidewalks on the opposite side of the street.
- **Project 4: East Slope Road Sidewalk**. Currently, the East Slope Road trail ends at East Slope Park. This project would extend a sidewalk on one side of the road to Butler Bridge Road at the Georgia-Pacific facility and would improve connections between east Toledo and the downtown waterfront. The current path starts at the intersection of SE 10th Street and East Slope Road and runs along the east side of East Slope Road. However, the trail does not connect to Butler Bridge Road, ending at the sharp curve near the railroad. In January 2013, the Public Works Department received approval from the Toledo City Council to apply for a state grant to construct a sidewalk to Butler Bridge Road. This sidewalk could eventually connect to the planned Sturdevant Road Trail to create a continuous link on the east side of Toledo for commuting and recreational purposes.
- **Project 5: A Street Sidewalk** between Business Loop 20 and NW 1st Street. The existing sidewalk on the west side of the street is narrow and in poor condition. This project would replace and repair existing sidewalk with an 8-foot concrete sidewalk to accommodate higher traffic near Memorial Park. This project is from the *Toledo Waterfront Connectivity Plan*.
- **Project 6: Bay Boulevard Sidewalk** between Depot Slough Bridge and Business Loop 20. Currently Bay Boulevard lacks pedestrian facilities along this section. This project would construct a new 8-foot sidewalk on the east side of Bay Boulevard to provide greater pedestrian access. This project does not include a new at-grade railroad crossing that would connect the sidewalk with a new bicycle/pedestrian bridge at Depot Slough and to the Waterfront Path. This project is from the *Waterfront Connectivity Plan*.

Crosswalks

The project team recommends adding specific crosswalk improvements to help increase pedestrian visibility and safety. These alternatives could include advisory and warning signage, crosswalk markings, and in some cases, flashing lights.

- **Project 7: School Pedestrian Crossings.** Add high visibility crosswalks at the entrance to Toledo Elementary and Junior/Senior High Schools. These crossings would be built together with the proposed multi-use path or boardwalk trail along Sturdevant Road (described in the Trail Network section below).
- **Project 8: Vehicle signs and markings.** Discourage vehicles at 2nd Street and Butler Bridge pedestrian crossing. The new railroad pedestrian crossing can be confusing for drivers, and adding signage and

pavement markings to discourage vehicles from using the pedestrian-only railroad crossing would reduce confusion and maintain the crossing for pedestrians only.

- **Project 9: NW 1st Street Crosswalk.** Install a 10-foot wide mid-block crosswalk on NW 1st Street between A Street and Butler Bridge Road. This project was included in the *Toledo Waterfront Connectivity Plan* and includes a new 8-foot wide median with vegetation on NW 1st Street, a rebuilt 6-foot sidewalk on the north side of NW 1st Street, and new concrete rail panels at the railroad crossing. The project includes adding crosswalk and railroad crossing warning signs along NW 1st Street. The project would also close the south crosswalk at NW 1st Street and Butler Bridge Road to reduce traffic conflicts and safety issues. The new median and crosswalk would create a more visible crossing and would reduce overall crossing distance.
- **Project 10: Fencing to direct pedestrian traffic.** This project would install a 4-foot cyclone fence on the west side of Butler Bridge Road from NW 1st Street to SW 2nd Street. This project, from the *Toledo Waterfront Connectivity Plan* would channel pedestrian traffic to designated railroad crossings to prevent unauthorized track crossing.
- **Policy 2:** The City will work to address rough pavement at railroad crossings to create smooth crossings for bicyclists and pedestrians. (This policy is in conjunction with Rail Policies 2 and 3 to address railroad crossings).

Wayfinding signs

Wayfinding signs, such as guide signs and maps, can help to encourage more visitors to explore Toledo's downtown on foot and provide information about the location and distance of nearby attractions. Signage can also provide the direction and distance to local recreational trails. A wayfinding system can also incorporate unique design elements to reinforce the sense of place in downtown Toledo.

- **Policy 1:** The City will work to develop a pedestrian wayfinding system that encourages visitors to explore Toledo and provides directions to local attractions in downtown and near the waterfront.
- **Project 11: Amenities and Signage.** This project from the *Toledo Waterfront Connectivity Plan* and would provide wayfinding signs at key locations to direct visitors to the waterfront area and other local destinations, while also facilitating regional connections. This project is consistent with Policy 1.

Trail Network

The following is an overview of proposed projects and policy recommendations for a multi-use path system in Toledo. These trail alternatives will accommodate both bicyclists and pedestrians: bicycle-specific projects and policies are included in the next section. Trails are shared-use paths designed for both transportation and recreation purposes and are typically between 8 – 14 feet wide. Figure 1 shows trail alternative projects in Toledo.


Example of a paved multi-use path

- **Project 12: Construct a trail along Bay Boulevard/Yaquina Bay Road.** In 2012, Lincoln County submitted a grant application to the Oregon Department of Transportation for a new multi-use trail that bypasses the steep and narrow section of Bay Boulevard in Toledo. The proposed trail uses the nearby former rail bed, and would travel through the Port of Toledo's boatyard facility. The project included a new trail along Altree Lane with improvements to a nearby railroad crossing before rejoining with Bay Boulevard. The Port of Toledo does not support the current trail route, due to safety concerns with bicyclists and pedestrians passing through the active boatyard. The narrow property and high traffic area for trucks and heavy machinery create safety concerns for trail users and potential impacts to boatyard operations. The project team recommends that the City work with Lincoln County and Port of Toledo to consider alternatives to the proposed trail that does not impact boatyard operations and addresses the safety concerns with the existing proposed route.
- **Project 13: Construct a multi-use trail along Sturdevant Road.** This project was recommended by stakeholders and community members at the first project open house. A sidewalk or trail would address the lack of pedestrian connections between downtown and the Toledo Elementary and Junior/High Schools. The freight route designation and the location of the two schools attract a number of different road users such as freight trucks, bicyclists, and pedestrians, many of whom are school children. In addition, there is little room next to the road to build sidewalks.

  The project team recommends a multi-use path and/or boardwalk along the west side of Sturdevant Road. This path may be constructed as a boardwalk near Olalla Slough in areas where there is not enough room to build next to the road. The trail would include multiple connections to Sturdevant Road including marked crosswalks with signage and lights (Project 5) at the local schools. An east-west connection across Olalla Slough to NE 2nd Street would be included to allow access between Sturdevant Road and downtown. The trail could be designed as a nature walk with interpretive signs and displays to educate users about the wildlife and habitat of the Olalla Slough.


Example of a boardwalk

- **Project 14: Business Loop 20 Trail.** Business Loop 20 does not have room to construct a sidewalk for the entire length between NW 6th Street and US 20, this alternative includes constructing a sidewalk where possible and a separate multi-use trail or boardwalk facility on the west side of the road where there is no room for a sidewalk. The trail would be on boardwalk where there are wetlands concerns or near Depot Slough, and would provide a dedicated facility for bicycles and pedestrians.
- **Project 15: Waterfront Path.** The Waterfront Path is a 10-12-foot shared-use asphalt trail that would provide a recreational connection from the Butler Bridge Road parking lot to NW 1st Street and then from NW 1st Street to the railroad tracks adjacent to Bay Boulevard. The path would provide continuous pedestrian and bicycle connections, improve access to the waterfront and downtown from surrounding neighborhoods, and facilitate connections to and from regional bicycle touring routes. The section of the path from the railroad/Bay Boulevard east to a point just west of NW 1st Street near of the waterfront pavilion is complete. The section between NW 1st Street and the pavilion still needs to be finished. There are challenges to connecting to Bay Boulevard, including how to cross the railroad tracks – an at-grade

railroad crossing would conflict with railroad operations, and the Waterfront Connectivity Plan recommends a bridge or exploring an at-grade crossing

- **Project 16: NW 1st Street and Waterfront Path Crossing.** This project is included in the *Waterfront Connectivity Plan* and would cross NW 1st Street at the planned Waterfront Path. The project includes a 10-foot wide crosswalk across NW 1st Street, removable bollards at the path/boardwalk intersection at 1st Street, and a 14-foot wide boardwalk west of NW 1st Street near the electrical substation with metal decking, asphalt surfacing, and railings. The project also includes a 6-foot wide sidewalk on the south/east side of NW 1st Street from the crosswalk to the Port of Toledo office. In addition, the project would install speed humps and warning signage in advance of the crosswalk on NW 1st Street.
- **Project 17: Depot Slough Crossing.** Currently, there are no dedicated bicycle and pedestrian facilities across Depot Slough on Bay Boulevard, which is a signed bicycle route. The *Toledo Waterfront Connectivity* Plan includes a project to construct a new bicycle/pedestrian bridge immediately to the east of the railroad bridge. The timber-framed crossing would be 14 feet wide and would connect with the future Waterfront Path. The project also includes a new 6-foot concrete sidewalk on the east side of Bay Boulevard south from Depot Slough and an 8 foot asphalt shared use path south of the new bicycle/pedestrian crossing to Altree Lane and could also connect with the planned Bay Boulevard trail. The project includes a fence to separate the path from the railroad tracks, and a new pedestrian crossing with concrete panels and signage.
- **Policy 2:** Toledo will work with regional partners, including the Cities of Corvallis, Philomath, and Newport; Lincoln County; Benton County; and ODOT; to determine the feasibility of building an intercity multi-use trail. This was suggested by a few community members to connect Toledo, Newport, and Corvallis along the US 20 corridor. This project would require a long-term, collaborative multijurisdictional planning effort that falls outside of the scope of the TSP. It is included as a policy idea, recognizing that Toledo would need to coordinate with regional partners to implement a separated trail facility including determining information about available right-of-way, route, funding sources, impacts, etc.
- **Policy 3:** The City will work with community partners to explore the possibility of instituting a volksmarch route in Toledo for programming events. Volksmarching is a form of personal, non-competitive, fitness walking that originated in Germany and has a popular following in the United States. Volksmarch events allow people to participate at their own pace, and typically occur on specific length outdoor paths and trails. It can also be a tourist draw, as volksmarchers visit different routes and keep a log of their walks. A volksmarch route could use proposed or existing paths.

Bicycle Network

The following is an overview of proposed projects and policy alternatives for the bicycle system in Toledo.

Bicycle Boulevards

Bicycle boulevards are generally a network of local neighborhood streets with lower vehicle traffic that prioritize bicycle travel. There are different levels of bicycle boulevards; the lowest cost and least impactful investments include wayfinding and warning signs, and shared lane markings and directional markings. Other types have higher costs and include changes in road design that reduce vehicle speeds and emphasize through movement for bicyclists. The project team recommends a basic bicycle boulevard network with lower cost elements such as signage and lane markings as the first step to creating and maintaining bicycle boulevards in the City.

Example of bike boulevard lane markings

A bicycle boulevard network would include a north-south connection along Alder and Beech Streets that improves bicycle connections to the Public Library, Skate Park, and Arcadia Park and Pool north of downtown, as well as the Community Center, East Slope Park, and Branstiter Park south of

downtown. Additional improvements such as new signage and striping may be considered to allow bicyclists a safe crossing on Alder Street at Business Loop 20. Multiple east-west facilities along Graham, SE 2nd, and NE 2nd/NE 3rd Streets would connect the Port of Toledo, downtown, and Sturdevant Road which could provide connections to the local public schools. A bicycle boulevard along Dundon Road and Sunset Drive, though steep, would provide a lower traffic volume and slower speed route compared to Business Loop 20. Figure 1 shows a map of the proposed bicycle boulevard network in Toledo.

- **Policy 4:** The City will implement a bicycle boulevard network on local residential streets with wayfinding signage and sharrows to facilitate connections to local destinations.

Wayfinding Signs

Example of wayfinding signs for bicyclists

Stakeholders recommended adding signs at the intersection of Business Loop 20 and Bay Boulevard to direct tourists into downtown. Bay Boulevard is used by bicyclists and bicycle tourists coming from Newport, and signage would help direct them once they arrive in town.

- **Project 18: Wayfinding signs.** Install bicycle wayfinding signs from Bay Boulevard into downtown.

Next Steps

The PMT, PAC, and community will review the alternatives presented in this technical memorandum and the other modal technical memoranda, and the alternatives that meet the TSP project goals will be refined and included in the TSP document.

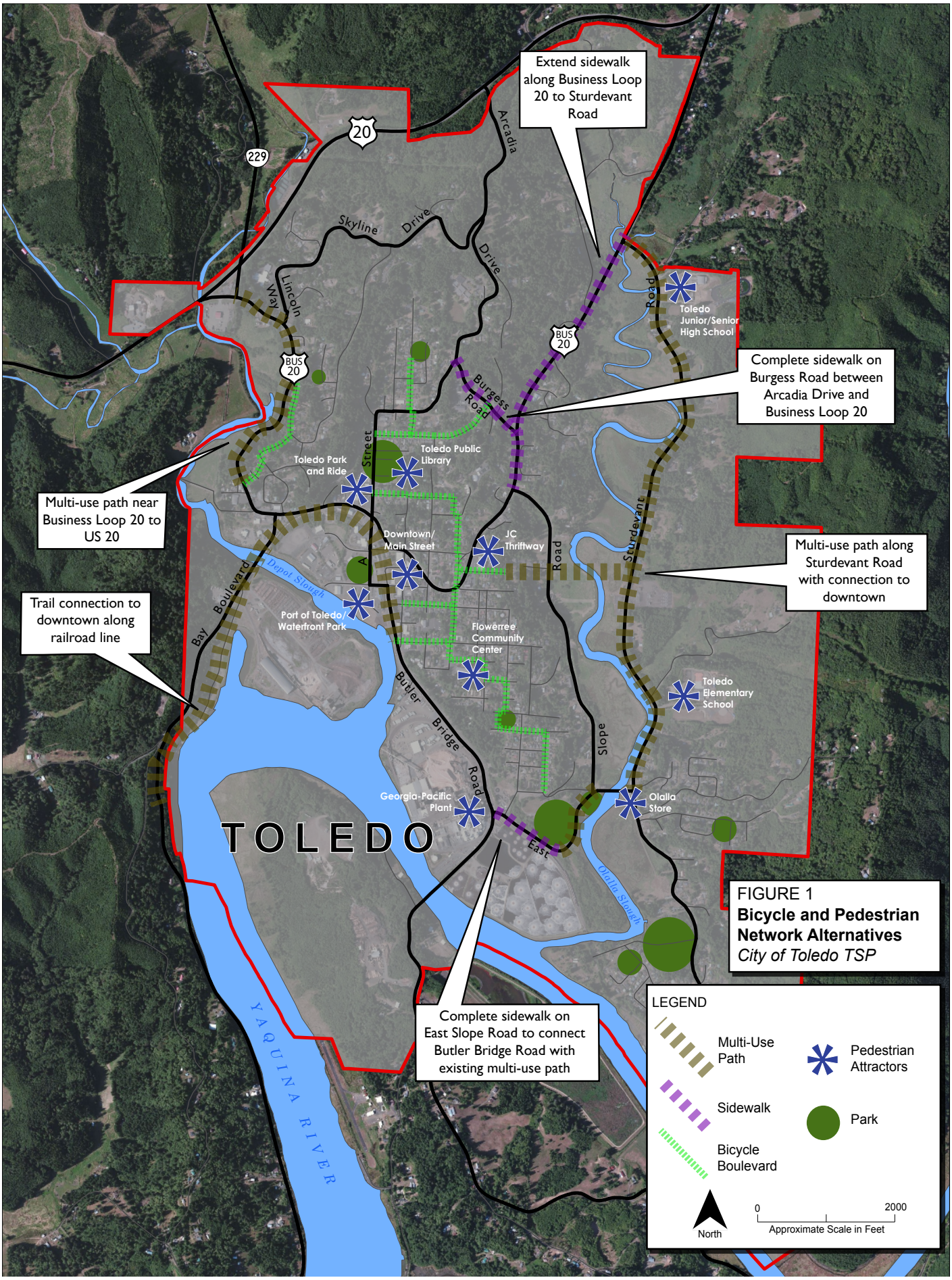


FIGURE 1
Bicycle and Pedestrian Network Alternatives
City of Toledo TSP

Toledo TSP: Local Transit System

This memorandum describes the potential policies, projects, and other measures for transit in the Toledo TSP to address deficiencies and needs identified in Technical Memorandum #3 (November 2012). These are alternatives for projects, policies, and measures and will be reviewed by the Project Management Team (PMT), the Project Advisory Committee (PAC), and the general public before they are included in the TSP. Projects and programs will be compared against the TSP goals, and those that best meet the goals will be included in the TSP. This memorandum also includes project team recommendations on each of the projects including those suggested by the community and PAC.

Alternatives for the local transit system are discussed below. Projects and programs that address the roadway system and the bicycle and pedestrian network in Toledo are included in previous memoranda[1]. Projects and programs that address the rail, air, port and water, and pipeline systems are included in Technical Memorandum #7. Planning level cost estimates for the projects and programs for all transportation modes are included in Technical Memorandum #8.

Existing Transit

The City of Toledo has a local transit route, that is operated by Lincoln County Transit and a regional service, the Coast to Valley Express, that is managed by the Northwest Oregon Transit Alliance, a consortium of transit agencies that includes Lincoln County Transit.

Lincoln County Transit

Lincoln County Transit's East County Route connects to Siletz and Newport through Toledo. The East County Route operates six days a week with five stops westbound and four stops eastbound in Toledo. The service operates six round trips per day.

The stops are located at the following locations in Toledo, from west to east:

- **Food Fair** (Business Loop 20 east of NW Forestry Road)
- **NE 1st and Main Street**
- **SE 2nd and Main Street *(Westbound only)***
- **JC Thriftway** (Business Loop 20 and NE 2nd Street)
- **Olalla Store** (Sturdevant Road and SE 10th Street)

In addition, Lincoln County Transit accommodates "flag stops" where riders are able to flag down the driver and board the bus along the route at safe locations. Riders do not have to be at a stop to be picked up or dropped off by a Lincoln County Transit vehicle.

The City has recently improved Toledo bus stops: The Park and Ride has a gazebo, while all of the East County Route stops have bus shelters and benches with the exception of the Food Fair stop on Business Loop 20. Constructing a shelter and bench there would require the City of Toledo to acquire an easement or purchase right-of-way along the roadway.

Riders most commonly request later service hours in the evening and more frequent service during the day for riders who work nonstandard hours. Currently, buses arrive 75-240 minutes apart depending on the time of day, with the last bus departing Toledo at 7:30 PM westbound and 8:48 PM eastbound. The East County Route does not operate on Sundays.

[1] Technical Memorandum #4 Transportation System Proposed Improvements
Technical Memorandum #5 Local Pedestrian and Bicycle System

Coast to Valley Express

The regional Coast to Valley Express serves the City, connecting Albany, Corvallis, and Newport. The Express runs seven days a week with one stop at the Toledo Park and Ride and operates four round trips per day. There are two bus runs each in the morning and evening peak period and the last bus leaves at 5:40 PM heading eastbound and 7:03 PM heading westbound.

Transit Alternatives

Lincoln County Transit is interested in expanding service and additional program options as needed and as funding becomes available. Lack of funding is currently the biggest obstacle to expanding service and infrastructure improvements. The Lincoln County Transportation Service District has a total Fiscal Year 2012-13 budget of $4.42 million, with the largest portion of that going to labor costs. The County levies a Transit Service Fund tax of 10 cents per $1,000 in property value, and also relies on Section 5310 and 5311 funds from the Federal Transit Administration to fund day-to-day operations, as well as capital expenditures and paratransit service. The agency also frequently applies for Oregon Department of Transportation statewide grants and federal grants such the Department of Energy's $3.5 million General Innovation Fund grant used for the North by Northwest Connector project.

The North by Northwest Connector project coordinated regional transit and is a partnership of Columbia County Rider, Sunset Empire Transportation District, Tillamook County Transportation District, Benton County Transit, and Lincoln County Transit. The five partners are working to improve transit connections between northwestern Oregon communities, Brand and market transit service in all five counties as a single seamless service, build community partnerships to increase transit ridership while promoting regional business and economic development opportunities, and implement sustainable funding strategies for continued transit system development.

Community members have suggested a transit shuttle or circulator to better serve the needs of local residents. The current East County Route's coverage leaves many Toledo residents beyond close walking distance to a transit stop, especially considering the area's steep terrain. This circulator would potentially have a different operator than Lincoln County Transit. There was also a suggestion based on community input to implement a water taxi or ferry route to Newport. However, the project team considers this service to be more aligned with economic development objectives rather than serving an identified transportation need within the planning horizon of the TSP.

To address these deficiencies, the project team recommends the following policies for the City of Toledo:

T Policy A: Maintain long-standing partnership with Lincoln County Transit and the North by Northwest Connector to support new investments in transit service and infrastructure, as well as identify potential new funding sources to implement these improvements.

T Policy B: Work with the Toledo Chamber of Commerce or other organization to organize a citywide transit shuttle or circulator that could meet the demand for improved local service for Toledo residents and employees.

T Policy C: Identify local and regional partners to explore long-term feasibility of water taxi or ferry service to Newport.

Next Steps

The PMT, PAC, and community will review the alternatives presented in this technical memorandum and the other modal technical memoranda, and the alternatives that meet the TSP project goals will be refined and included in the TSP document.

Toledo TSP: Rail, Air, Water, and Pipeline Systems

This memorandum describes the potential policies and projects for the Toledo TSP to address deficiencies and needs identified in Technical Memorandum #3 (November 2012). These are alternatives for projects, policies, and measures and will be reviewed by the Project Management Team (PMT), the Project Advisory Committee (PAC), and the general public before they are included in the TSP. Projects and programs will be compared against the TSP goals, and those that best meet the goals will be included in the TSP.

The City of Toledo has a multimodal transportation system that includes a freight rail line, a state-run airport, water transportation facilities including a port, and a number of pipelines through the City. The alternatives for each of the modes are discussed below. Projects and programs that address the roadway system, the bicycle and pedestrian network, and transit in Toledo are included in previous memoranda[1]. Planning level cost estimates for the projects and programs for all transportation modes are included in Technical Memorandum #8.

Rail Network

Portland and Western Railroad (PNWR) owns the Yaquina Branch of the railroad in Toledo which is regulated by the Oregon Department of Transportation (ODOT) Rail Division. The Georgia Pacific paper mill is currently the sole customer along the line. Within the City, there are four public crossings. All of the crossings are rough with degraded pavement and potholes between the rails and the street surface. These rough crossings make it difficult for pedestrians and bicyclists, cause damage to vehicles including freight trucks, and on occasion cause trains to derail due to the condition of the rails. The derailments could potentially impact plant operations by delaying material shipments into and out of the facility. There is also an unprotected crossing at Butler Bridge Road where a spur track enters the Georgia Pacific facility. Train engineers are required to use signal flares when using this crossing. The crossing has an advance warning sign, pavement markings, and a roadside “Yield” and railroad crossing signs. However, unlike the other rail crossings in Toledo there are no flashing lights, bells, and gates.

Since the rails are owned by the railroad, the City is not able to address deficiencies directly. However, the City recognizes that freight rail is important to sustaining the local economy and is interested in preserving or increasing the amount of traffic using the rail line to access the I-5 corridor. The project team recommends a number of policies to work with partners and address the issues with crossings and the railroad.

To address these deficiencies, the project team recommends the following projects and policies:

Rail Policy 1: The City will work with partners to support and maintain the freight rail connection to Toledo from the I-5 Corridor.

Rail Policy 2: The City will coordinate regular coordination with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to work together to address the conditions of the crossings.

Rail Policy 3: The City will develop evaluation criteria to prioritize public crossing investments and generate a list of improvements in order of greatest priority.

Rail Policy 4: The City will continue to pursue the proposed intermodal hub at Tokyo Slough with the Port of Toledo to add potential freight rail customers. This project is described in more detail in the Ports and Water section below.

Rail Policy 5: The City will work with ODOT Rail and PNWR to reduce idling train engines near Downtown businesses.

[1] Technical Memorandum #4 Transportation System Proposed Improvements
Technical Memorandum #5 Local Pedestrian and Bicycle System
Technical Memorandum #6 Local Transit System

Airport

The Toledo State Airport is a small facility just outside of the urban growth boundary used mostly for emergency personnel and aircraft based at the airport. It is also used when foggy weather conditions preclude aircraft landings at Newport Municipal Airport. The airport accommodates an average of 22 aircraft operations per week, and there are a number of barriers to increasing capacity: an unpaved ramp and taxiway, a runway that is inundated during high tides, and tall trees over accepted standards near the edge of the runway. Aircraft must curve on their approach over the river to avoid obstructions. There are also wildlife conflicts near the airport.

The state has expressed the desire to sell the airport to the Port of Toledo numerous times in the last 30 years, most recently in 2005.[2] However, the Port has not decided to take control of the facility and it remains in state ownership. There are no changes expected to the airport within the planning horizon of the TSP with the possible exception of the sale and potential closure if the state is successful. If the airport closes, the City is interested in determining an alternate site for emergency response aircraft to continue serving Toledo.

Air Policy 1: The City will work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City if the airport closes.

There are no proposed projects for the airport.

Port and Water Facilities

The Port of Toledo operates west of downtown and provides moorage, ship repair facilities, and industrial space to businesses. The Port currently has an 85-ton travel lift and 200-ton floating drydock on site at the Sturgeon Bend boatyard facility. The Port has recently completed a transient dock and has just adopted its *Boatyard Buildout Plan*, which includes a number of projects described below.

Port Projects

Port Project 1: Implement elements of the Port 2012 *Strategic Business Plan* including:

- A new 300 ton travel lift
- Construct a new mobile lift pier, replacing the current drydock pier
- Construct a wash-down pad
- Relocate Utilities: move road, power poles, and connect to city sewer
- Establish Tokyo Slough upland area for hard moorage
- Construct a vessel sandblast and paint building, to allow year-round work
- A rail cargo transfer area adjacent to railroad

These projects would be implemented in three phases.

<u>Phase 1</u>

- Replace piles and construct new pier for travel lift
- Construct a wash-down pad
- Relocate utilities/site preparation
- Purchase travel lift

<u>Phase 2</u>

- Upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas

<u>Phase 3</u>

[2] Hitchman, James. 2010. *The Port of Toledo, Oregon, 1910-2010.* Toledo, OR. p. 57. http://www.portoftoledo.org/Hitchman%20History%20for%20Website%20PDF.pdf .

- Construct vessel work building
- New boatyard office and restrooms

Benefits of these upgrades include increased environmental stewardship through new efficient equipment and infrastructure improvements, the ability to lift and service larger boats, the ability to handle more than two large boats at once, and year-round ability to sandblast and paint.

The project team recommends including these Port projects in the TSP to ensure that the Port and City are able to pursue funding in the future.

Other Water Projects and Policies

Barge Access

The City of Toledo is interested in providing barge access along the Yaquina River to the industrial site in southeast Toledo along Sturdevant Road. However, Butler Bridge restricts the height of barges or other vessels from accessing the site. The structure does not have a drawbridge and is in good condition. In addition, the City is also interested in exploring the possibility of a new pier for barge access at the entrance to Depot Slough. This pier would be located on Georgia-Pacific property in the vicinity of the existing effluent pipeline. The following policies support the City and Port's barge access interests:

Water Policy 1: The City will consider conducting a bridge life cycle assessment to determine the lifespan of the bridge and explore the cost of rebuilding or altering the bridge to accommodate taller barges and boats.

Water Policy 2: The City will explore developing a pier for barge access at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel.

Public Boat Ramp near Downtown

A number of community members suggested adding a public access boat ramp within the City limits. Currently the closest boat ramp is near the Toledo State Airport, and there is another ramp on Elk City Road southeast of Toledo. The project was suggested as a way to bring more visitors into Toledo who would use the ramp instead of one near Newport. The Port has considered adding a boat ramp near downtown in the past, and due to the dredging requirements, potential cost associated with the project, and limited availability for parking nearby, the Port decided not to pursue a motorized boat ramp in Toledo. However, there may be an opportunity for a non-motorized launch site that is convenient to downtown retail businesses.

Water Policy 3: The City will explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown.

Dredging Spoils Site

Depot Slough and Yaquina River require regular dredging to allow ships and barges to access the Port. The last dredging occurred in 2010. The Port is interested in locating an appropriate site to deposit dredge spoils when the next dredging project takes place. Typically, dredging occurs every ten years and requires environmental permitting for the site and approval to deposit dredge spoils. The airport property may be an option for the spoils site should the facility close in the near future.

Water Policy 4: The City will work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site for Depot Slough.

Tokyo Slough Intermodal Hub

The Port of Toledo has been interested in purchasing and improving a marine industrial site for use as an intermodal shipping facility at Tokyo Slough along the Yaquina River. The facility would provide a warehouse and shipping location for goods to be transported by water, rail, and roadway and could support short ocean shipping along the Pacific Coast. The intermodal hub would expand the existing barge dock, extend the railroad 600 feet to allow goods to be transferred between barge and rail. Existing local roads and highways would carry freight trucks to and from the intermodal facility. The project would also expand access roads, provide a paved staging area for the loading/unloading of cargo, and construct a 9,800 square foot warehouse.

The project would provide additional transportation options for local and regional shippers receiving materials or sending products between the central Oregon Coast and destinations in the Willamette Valley and beyond.

Water Policy 5: The City will continue to make the proposed intermodal hub at Tokyo Slough (linking water, rail, and freight truck transportation) a high priority.

There are no projects recommended for water transportation.

Pipeline

There are two pipelines within the City: a gas transmission pipeline which parallels OR 229 south to US 20, and then west towards Newport, and an effluent pipeline from the Georgia Pacific site to the ocean.

There are no plans and no need to expand the gas pipeline into Toledo within the 20 year planning horizon of the TSP.

Pipeline Policy 1: The City will continue to support the Georgia-Pacific plant's effluent pipeline and work with partners to maintain applicable environmental permitting

There are no proposed projects for the pipeline network.

Next Steps

The PMT, PAC, and community will review the alternatives presented in this technical memorandum and the other modal technical memoranda, and the alternatives that meet the TSP project goals will be refined and included in the TSP document.

Toledo TSP: Costs and Priorities for Transportation System Improvements

This memorandum discusses the planning-level costs, implementation priority, and potential funding opportunities for improvement alternatives to the transportation network to be considered for the Transportation System Plan (TSP). These projects and programs were identified in previous memoranda[1] with input from stakeholders and community members and are intended to address deficiencies and needs identified in Technical Memorandum #3 (November 2012). Technical Memorandum #4 identified roadway network alternatives, Technical Memorandum #5 identified bicycle and pedestrian network alternatives, Technical Memorandum #6 identified Transit alternatives, and Technical Memorandum #7 identified rail, air, pipeline, and water alternatives. For some modes, specifically transit, air, rail, or pipeline, there are no project alternatives, only policies. These policies are not included in the cost estimates. Attachment A includes detailed costs including unit cost assumptions for the project alternatives.

The project team developed planning-level costs and compared these costs to the current level of funding available from existing and potential future sources for transportation improvements in Toledo, as identified in Technical Memorandum #2 (July 2012). The project team prioritized the projects by mode based on local transportation goals to create a fiscally constrained system for the next 20 years. The Project Management Team (PMT), the Project Advisory Committee (PAC), and the general public will review the alternatives before they are included in the TSP. The project team has identified applicable local, state, federal, and private funding sources for each project to assist the City in implementing the project alternatives.

Project Priorities

Community preferences, estimated costs, project complexity, and funding availability determine whether a TSP project is identified as a short-term (0-5 years), medium-term (5-10 years), or long-term (10-20 years) priorities. Small, cost-effective improvements are likely to be short-term priorities, while larger, more expensive projects will likely be medium- to long-term priorities. The priority levels are a guide, not a rigid "to-do list." If the City receives unanticipated funding within the next five years; longer term priorities could be constructed.

The Toledo TSP will also include a fiscally constrained list of projects that the City of Toledo is able to implement during the planning horizon of the TSP given the expected transportation funding. The constrained list will likely include short- and medium-term projects, while long-term projects and more expensive projects will make up an illustrative list of projects that the City supports. The fiscally constrained list will be included in the TSP and determined based on feedback from City stakeholders, staff, and the community.

Tables 1-3 provide the cost estimates, priority, possible funding sources, and agency/organization champions for the TSP roadway, bicycle/pedestrian, and Port project alternatives. There are no transit, rail, air, or pipeline project alternatives in the TSP. The City is encouraged to pursue the recommended policies in those particular sections to work towards the project goals and address transportation deficiencies.

Roadway Alternatives

The following projects are roadway alternatives. For the Western Junction where US 20, OR 229, and Business Loop 20 intersect, there are seven alternatives, and only one or two options will be carried forward into the TSP. The PMT, SAC, and community will provide input into which project(s) will be recommended in the plan, though two alternatives, the Couplet and Offset T Alternatives were not analyzed further once the project team

[1] Technical Memorandum #4 Transportation System Proposed Improvements
Technical Memorandum #5 Local Pedestrian and Bicycle System
Technical Memorandum #6 Local Transit System
Technical Memorandum #7 Rail, Air, Water, and Pipeline Improvements

determined they did not address the deficiencies identified in Technical Memorandum #3. A full description of the alternatives and results of the traffic modeling are included in Technical Memorandum #4.

TABLE 1
Roadway System Alternative Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Champion
R1 - Freight Route Signage Improvements – Citywide	$12,000	Short-term	Street Fund, STIP, *LID*	City
Western Junction Alternatives– US 20/Business Loop 20/OR 229				
R2 - No Build Alternative	$0	N/A	N/A	N/A
R3 - Couplet Alternative	The project team did not identify cost estimates, priority, funding sources and champion for this alternative because this alternative did not improve traffic congestion or safety and the alternative would be out of character in the rural setting			
R4 - Diamond Interchange Alternative	$9,846,000	Long-term	STIP, Street Fund, *Bonds*, OTIB	ODOT, City
R5 - Low Build Alternative	$2,336,000	Medium-term	STIP, Street Fund, OTIB, *Bonds*	ODOT, City
R6 - Offset T Alternative	The project team did not identify cost estimates, priority, funding sources, and champion for this alternative because this alternative did not improve traffic congestion or safety at the Western Junction.			
R7 - Roundabout Alternative	$3,310,000	Long-term	STIP, Street Fund, *Bonds*, OTIB	ODOT, City
R8 - Traffic Signal Alternative	$7,586,000	Long-term	STIP, Street Fund, OTIB, *Bonds*	ODOT, City
R9 - Business Loop 20 - Eastbound Right Turn Pocket at A Street	$449,000	Medium-term	Street Fund, *LID*, STIP	City
R10 - East Slope Road – Improve Vertical Alignment For Freight Access	$635,000	Medium-term	Street Fund, STIP, *LID*	City
R11 - Burgess Road Realignment to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term	Street Fund, *LID*, STIP	City
R12 - Sturdevant Road – Roadway Realignment for Siletz Site Freight Access	$595,000	Long-term	Street Fund, STIP *LID, SDC, Bonds*	County, City, Siletz Tribe
R13 - A Street Railroad Crossing[2]	$176,000	Short-Term	Street Fund, Bike/Ped Fund, *LID*, PNWR	City, PNWR
R14 - Butler Bridge Road and NW 1st Street Intersection changes [2 3]	$51,000	Short-term	Street Fund, *LID*	City

[1] STIP includes all funded categories, including Transportation Alternatives, Immediate Opportunity Fund, and Modernization.
[2] This project was recommended in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and priority rankings and grew the cost estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04%.
[3] This project from the *Waterfront Connectivity Plan* combines pedestrian and roadway improvements into one project. The plan did not break down the cost of each improvement.
Funding sources in *italics* are sources not currently used by the City
STIP – Oregon Statewide Transportation Improvement Program
LID – Local Improvement District (Toledo does not currently have a LID)
SDC –System Development Charge
OTIB – Oregon Transportation Infrastructure Bank

Bicycle and Pedestrian Alternatives

Bicycle and pedestrian alternatives are described in more detail in Technical Memorandum #5. Alternatives for bicycle and pedestrian projects include filling sidewalk gaps, adding advisory and wayfinding signs, and constructing multi-use paths and/or boardwalks to provide alternate routes to narrow, heavily traveled roads.

TABLE 2
Bicycle and Pedestrian System Upgrade Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Champion
BP1 - Burgess Road – Fill sidewalk gaps	$172,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP2 - Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term	Bike/Ped Fund, Bonds, *LID*	City, School District
BP3 - Douglas Street and 3rd Street near the Community Center – fill sidewalk gaps	$63,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP4 - East Slope Road sidewalk extension	$551,000	Medium-term	Street Fund, Bike/Ped Fund, *LID*	City
BP5 - A Street Sidewalk Rebuild – Business Loop 20 to NW 1st Street[2]	$105,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP6 - Bay Boulevard Sidewalk – Depot Slough to Business Loop 20[2]	$108,000	Medium to long-term	Street Fund, Bike/Ped Fund, *LID*	City
BP7 - Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Medium-term	County, Bike/Ped Fund, *LID*	City, County, School District
BP8 - Railroad Pedestrian Crossing Improvements to Discourage Automobile Use - Butler Bridge Road at SE 2nd Street	$11,000	Short-term	Bike/Ped Fund, *LID*	City
BP9 - NW 1st Street Median, Midblock Crosswalk, and North Sidewalk/Grade Crossing Improvements[2 3]	$558,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City
BP10 - Butler Bridge Road Railroad Fencing – NW 1st Street to SW 2nd Street[2]	$27,000	Short-term	Bike/Ped Fund, *LID,* PNWR	City
BP11 - Amenities and Signage – Waterfront area[2]	$12,000 - $135,000	Medium to long-term	Street Fund, Bike/Ped Fund, *LID*	City
BP12 - Trail along Bay Boulevard/Yaquina Bay Road	$817,000	Long-term	STIP, County, Bike/Ped Fund, Bonds, *LID*	County, City
BP13 - Multi-Use Trail – Sturdevant Road	$4,227,000	Medium-term	Bike/Ped Fund, Bonds, *LID*	City, County, School District
BP14 - Business Loop 20 Multi-use Trail (South/West Side) – US 20 to NW 6th Avenue	$2,675,000	Long-term	STIP, Bike/Ped Fund, *Bonds*, *LID*	City
BP15 – Waterfront Path: East Section (between NW 1e Street and Butler Bridge Road)[2]	$278,000	Short-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP16 – Waterfront Path: West Section between Bay Boulevard and NW 1st Street (Includes NW 1st Street Crossing and Boardwalk)[2]	$872,000	Medium to long-term	STIP, Bike/Ped Fund, Bonds, Port, *LID*	City
BP17 - Bay Boulevard – Depot Slough Bicycle/Pedestrian Crossing	$1,660,000	Medium to long-term	STIP, Bike/Ped Fund, Bonds, *LID*	City
BP18 - Bay Boulevard Bicycle Wayfinding signs	$10,000	Short-term	Street Fund, Bike/Ped Fund, *LID*	City

TABLE 2
Bicycle and Pedestrian System Upgrade Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 $)	Priority	Funding Source[1]	Champion

[1] STIP includes all funded categories, including Transportation Alternatives, Immediate Opportunity Fund, and Modernization.
[2] This project was recommended in the adopted *Toledo Waterfront Connectivity Plan* (2009) and is included in the TSP. The project team used the 2009 cost estimates and priority rankings and grew the cost estimate to 2012 dollars using an ODOT approved annual cost escalation of 4.04%.
[3] This project from the *Waterfront Connectivity Plan* combines pedestrian, roadway, and rail improvements into one project. The plan did not break down the cost of each improvement.
Funding sources in *italics* are sources not currently used by the City
STIP – Oregon Statewide Transportation Improvement Program
SDC –System Development Charge
OTIB – Oregon Transportation Infrastructure Bank
PNWR – Portland and Western Railroad

Port and Water System Alternatives

The following projects are described in more detail in Technical Memorandum #7. These projects are also included in the Port *Boatyard Buildout Plan.* The Port has a number of different funding sources beyond transportation funding sources. The Port receives and is eligible for a variety of economic development, marine, and Army Corps of Engineers funding sources that are not available for road or bicycle and pedestrian projects. The Port also has a budget of its own that it can use to fund projects.

TABLE 3
Port and Water System Upgrade Cost Estimates and Prioritization

Project Description	Cost Estimate (in 2012 Dollars)	Priority	Funding Source[1]	Champion
Phase 1 projects – New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift	$3,493,000	Short-Term	Port, *Connect*Oregon, MNIF, PRLF	Port
Phase 2 projects – upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas	$950,000	Medium-Term	Port, *Connect*Oregon, MNIF, PRLF	Port
Phase 3 projects – construct vessel work building, new boatyard office and restrooms	$2,050,000	Long-Term	Port, *Connect*Oregon, PRLF	Port, City

[1] Port – General Port of Toledo Revenues
MNIF – Marine Navigation Improvement Fund
PRLF – Port Revolving Loan Fund

Summary of Funding Sources

This section includes an overview of applicable funding sources, an in-depth analysis of transportation funding within the City is included in Technical Memorandum #2: *Funding for Roadway, Pedestrian, Bicycle, and Transit Improvements.* There are two types of funding sources identified in Technical Memorandum #2: existing funding sources that the City currently uses, and potential funding sources that the City could pursue for future projects.

The City of Toledo has several established and potential funding sources available at the local, state, and federal levels for future transportation projects.

Funds for transportation projects within the city come from the City Street Fund, which is made up of the following:

- City's share of State Highway Funds, financed by fuel taxes, vehicle registration and title fees, driver's license fees, and other sources, with the Oregon Transportation Commission appropriating funds to cities on an annual basis based on population.
- Franchise fees, and
- Road maintenance fees.

One percent of these funds are devoted to bicycle and pedestrian projects within road right-of-way, per state law. In Toledo's budget for Fiscal Year 2011-12, the street fund included $979,310 and $17,473 for bicycle and pedestrian projects. The Street Fund is not entirely dedicated to road construction projects - most funding supports maintenance, upkeep, and reconstruction. The City has around $100,000 per year to construct transportation projects. Assuming that transportation will remain steady for the next 20 years, the amount of money that the City of Toledo will be able to devote to transportation projects in the next 20 years is $2 million, and approximately $350,000 dedicated to bicycle and pedestrian projects over the same time period.

Federal funding comes from Moving Ahead for Progress in the 21st Century (MAP-21) federal surface transportation legislation passed in 2012. The Highway Trust Fund (HTF) account within MAP-21 is funded by motor vehicle fuel taxes and other fees, as well as the general revenue fund. The HTF is used to finance the Surface Transportation Program (STP), among other formula programs, which is the primary program that funds local government and non-highway projects. Projects that receive federal funding must be included in the four-year Statewide Transportation Improvement Program (STIP) and are usually required to be matched with state or local funding. The Cascades West Area Commission on Transportation (CWACT) is responsible for allocating funding for counties and cities under its jurisdiction, and ACTs will play a central role in prioritizing projects for funding through the Enhance-It STIP.

To ensure that Toledo is involved in the STIP decision-making process and to advocate for STIP projects important to the community, the City should continue to actively participate in the CWACT.

Federal active transportation funding is now incorporated into the Transportation Alternatives Program (TAP) in MAP-21, replacing the separate Recreational Trails, Safe Routes to Schools, and Transportation Enhancement (TE) Programs from the previous surface transportation program. TAP funds can be used for Recreational Trails, Safe Routes to School, and those projects previously eligible for TE including bicycle and pedestrian projects, landscaping, historic preservation, and other projects. However, the amount of funding allocated to TAP is significantly reduced from the three previous programs added together.

Statewide Transportation Improvement Program (STIP) Updates

Since the project team completed Technical Memorandum #2, the categories for how the state of Oregon funds its 4-year capital improvement program has changed. Projects included in the STIP are generally "regionally significant" and are prioritized by Area Commissions on Transportation (ACTs). ACTs are regional advisory bodies, and the appropriate ACT for Toledo is the Cascades West ACT. All regionally significant state and local projects, as well as all federally-funded projects and programs, must be included in the STIP. About 80 percent of STIP projects use federal funds, most of which will originate from MAP-21 programs. This includes the STP, TAP, and National Highway Performance Program funding for preservation and improvement of the National Highway System. In addition, Regional Flexible Funds competitive grants awarded every two years towards bicycle, pedestrian, transit and Transportation Demand Management (TDM) projects are now included in the STIP.

Beginning with the 2015-18 STIP, the process will be reorganized into two broad categories: "Fix-it" and "Enhance" that encompass the previous funding categories detailed in the 2012-2015 STIP. "Fix-it" projects are those that fix or preserve the current transportation system; "Enhance" projects are those that enhance, expand or improve the transportation system. The main purpose of this reorganization is to allow maximum flexibility to fund projects that reflect community and state values, rather than those that fit best into prescriptive programs.

Applicable "Fix-it" activities will include:	**Applicable "Enhance" activities will include:**
• Bridges (state owned)	• Bicycle and/or Pedestrian facilities on or off the highway right-of-way
• High Risk Rural Roads	• Most projects previously eligible for Transportation Enhancement funds
• Illumination, signs and signals	• Bike/Ped, Transit, TDM projects eligible for Flexible Funds (using federal STP and CMAQ funds)
• Safety	• Safe Routes to School (infrastructure projects)
	• Transportation Alternatives (new with MAP-21)

Under this new STIP organization, there will be one application for all projects eligible under the "Enhance" program. Communities will apply for the "Enhance" projects that best serve their community and ODOT will determine the appropriate funding mechanism. The OTC will select "Enhance" projects based on recommendations developed by local governments, public agencies, and citizen representatives through the ACTs. "Fix-it" projects will be selected with input from infrastructure management systems, supported by consultations with the ACTs. This new organization is primarily intended to increase funding flexibility and does not represent a fundamental change in the type of projects that will be funded through the STIP. Seventy-six percent of the STIP funding will go to "Fix-it" projects, while 24 percent will go to "Enhance" projects.

Non-STIP State Funding Sources

Other sources of state funding include:

- *Connect*Oregon lottery-backed bonds, distributed in order to improve connections between the highway system and other modes of transportation, and can be used for Port of Toledo projects.

- Immediate Opportunity Fund, providing funding for transportation projects essential for supporting site-specific economic development projects on a case-by-case basis.
- Special City Allotment Grants, distributed among cities with population of less than 5,000 to help repair or reconstruct City-maintained streets that are inadequate for the capacity they serve or are deemed in unsafe condition.
- Oregon Infrastructure Authority programs, such as the Marine Navigation Improvement Fund and Port Revolving Loan Fund, which can be used on projects to improve the Port of Toledo.
- Oregon Transportation Infrastructure Bank (OTIB), a statewide revolving loan fund available for highway projects on major collectors or higher classification, and bicycle or pedestrian access projects on highway right-of-way.
- ODOT's Bicycle and Pedestrian Grant Program, distributed every two years for facility design and construction within public rights-of-way.
- Oregon Parks and Recreation Department administers Recreational Trails Grants for new facilities, such as bridges and trailheads, as well as signage, and land acquisition or easement costs.

To implement additional transportation projects not may not be included in the City's fiscally constrained project list, the City may pursue funding transportation project with the following programs:

- Local Improvement District (LID), created by property owners within a district to raise revenues for infrastructure improvements within district boundaries.
- Tax Increment Financing (TIF), as part of an urban renewal area (URA) where a cap is placed on assessed value of properties within the URA, and any taxes collected above this cap go towards improvements in the URA.
- Roads District, a special roads taxing district for the purposes of constructing and maintaining roads
- Parking fees, most likely in Downtown Toledo
- Revenue or general obligation bonds, financing construction of large capital improvement projects by borrowing money and paying it back over time in smaller installments but increasing the total cost over time due to interest.

Next Steps

The PMT, PAC, and Community will review these projects and priorities. The project team will make any necessary changes, and then the alternatives supported by City stakeholders will be included as recommendations in the Toledo TSP. Once the recommendations and priorities are determined, the project team will create the fiscally constrained project list to determine which projects can be funded with existing funding sources, and which projects will need additional funding before implementation.

Attachment A Cost Estimate Detail

ROADWAY PROJECTS ORDER OF MAGNITUDE COST ESTIMATES	
Project	**Estimated Cost**
Freight Route Signing	$12,000
Western Junction Diamond Interchange	$9,846,000
Western Junction Low Build	$2,336,000
Western Junction Roundabout	$3,310,000
Western Junction Traffic Signal	$7,586,000
Right Turn Pocket on eastbound Bus. Loop 20 @ A Street	$449,000
Improve East Slope Road Vertical Alignment	$635,000
Realign Burgess Road @ Bus. Loop 20	$298,000
Sturdevant Roadway Realignment for Siletz Site Access	$595,000
Pavement Markings to 1st Street Railroad Crossing	$1,000
Burgess Road Sidewalk	$172,000
Bus. Loop 20 Sidewalk_East Slope to Sturdevant	$1,093,000
Sidewalk and Multi-use Path along Business loop 20 between US 20 and NW 6th	$2,675,000
Douglas Street/3rd Street Sidewalk	$63,000
East Slope Road Sidewalk Extension	$551,000
Highly Visible Crosswalks at both Jr/Sr High School & Elementary School	$68,000
Pedestrian Advisory Signs @ Butler Bridge & 1st Street Intersection	$37,000
Discourage Vehicles at SE 2nd Street Ped Crossing on SE Butler Bridge Road at Railroad Tracks	$11,000
Multi-Use Path along Studevant Road	$4,227,000
Bay Boulevard Bicycle Wayfinding Signs	$10,000

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Freight Route Signing		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:		**LENGTH (MILE):**	**SHEET:**
	Signing		1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	New Signs - Small	EA	12.00	$500.00	$6,000
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$6,000***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$100
	TP & DT	3.0-8.0%	3.0%		$200
	Mobilization	8.0-10.0%	10.0%		$600
	Erosion Control	0.5-2.0%	0.0%		$0
	Contingency	30-40%	40.0%		$2,400
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$9,300***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$1,400
	Construction Engineering		10.0%		$900
			TOTAL PROJECT COST		**$12,000**

Assumptions:

For each approach to Bus. US20 along US20:

Advanced "Truck Route" Sign (R14-1) with "Ahead" Aux Sign (W16-9P, white)

At intersection, "Truck Route" Sign (R14-1) with Turn Arrow Aux sign (M6-3)

4 signs for 2 approaches, for 8 total small signs

No "Trucks" Sign (R14-5) on non truck routes, assume 4 signs

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Western Junction Diamond Interchange		**PREPARED BY:** B. Adams	**DATE:** 2/14/2013
DESIGN LEVEL: Planning			
KIND OF WORK: Roadway, Earthwork, Drainage, Lighting, Structures		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.27	$935,700.00	$248,102
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	3.8	$412,500.00	$1,556,641
4	Intersection Widening	EA		$76,500.00	$0
5	Interconnect Signal	LS		$35,000.00	$0
6	New Signal	EA		$300,000.00	$0
7	Signal Modifications	EA		$75,000.00	$0
8	Earthwork (See Note)	CY	64,000	$7.50	$480,000
9	Traffic Calming	5-10%		-	$0
10	Illumination	Mi.	0.27	$260,000.00	$68,939
11	Landscaping	Mi.	0.27	$235,000.00	$62,311
12	Bridges	SF	12880.0	$150.00	$1,932,000
13	Walls	SF	6,000	$75.00	$450,000
			SUBTOTAL		***$4,797,993***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$119,900
	TP & DT	3.0-8.0%	8.0%		$383,800
	Mobilization	8.0-10.0%	10.0%		$479,800
	Erosion Control	0.5-2.0%	2.0%		$96,000
	Contingency	30-40%	40.0%		$1,919,200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$7,796,693***

ANTICIPATED ADDITIONAL COSTS

		UNIT	QUANTITY	UNIT COST	COST
	Sensitive Area Impact Mitigation	LS	1	$100,000.00	$100,000
	Railroad Crossing	EA		$600,000.00	$0

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$1,169,500
	Construction Engineering		10.0%		$779,700
			TOTAL PROJECT COST		**$9,846,000**

Cost Assumptions:

Assumes Diamond Interchange

Assumes wetland impacts due to OR229 realignment and southbound on-ramp

No Right-of-Way Costs are considered

US20: 14955 lane-feet

Assumes full-depth reconstruction of existing pavement

2050' EB lane with 2030' of 8-ft shoulder = 3420 lane-feet

2050' WB lane with 2030' of 8-ft shoulder = 3420 lane-feet

500' acceleration lane for both on-ramps = 1000 lane-feet
4100' of 8-ft shoulder = 2735 lane-feet
Each ramp is 22' wide, (600' + 620' + 560' + 610')= 2390' total = 4380 lane-feet

OR229: 4970 lane-feet

Assumes curb/sidewalks along OR229 through interchange
1400' NB lane with 1400' of 6-ft shoulder = 2100 lane-feet
1400' NB lane with 1400' of 6-ft shoulder = 2100 lane-feet
Median: 470' of 14-width, with 300' of taper length = 770 lane-feet
2 Bridges (1 interchange, 1 over slough)
Interchange bridge would accommodate a 4-lane US20 and 130' span
Slough bridge assumes 100' span
Assumes Walls around Slough Bridge Abutments. (4 walls x 150' long x 10' avg. height

Earthwork:

Width (increased to account for embankment fill slopes):

Ramps	35	ft			
OR229	65	ft (north)		70	ft (south)
Height:	23	ft			

WB on:	620	ft long
WB off:	600	ft long
EB on:	560	ft long
EB off:	610	ft long
OR229, North:	400	ft long
OR229, South:	600	ft long

Lighting only at 4 gores, about 300' each

Design Assumptions:

- US20: 45mph posted (50mph design); US229: 55mph north of US20, assume 35 south of US20
- Improve US20 to 4-lanes, two 12-ft lanes each direction, with 8’ right shoulders (64’ width)
- Improve skew angle of US20 and US229; min 60 degrees (HDM Fig. 9-18)
- Clear zone: 10-14’ depending on fill slope (HDM Table 4-3)
- Interchange bridge structure
  - 23’ total height from US229 structure surface to US20 roadway surface
  - 17’ vertical clearance, High Routes (HDM 4.5.1)
  - 6’ thick deck structure
  - Two 12’ travel lanes, 14’ center turning lane
  - 6’ sidewalk on each side, 6’ bike/shoulder lane each side
  - 62’ roadway from back of sidewalk to back of sidewalk
  - Use barrier, not 2:1 slopes
  - (Build to expand to 4 lanes?) *No, due to low demand into Toledo via US229*
  - Need to span (at a 60 degree skew angle, actual length about 100-110’)
    - Roadway: 64’ total
    - Clear zone: 12’ total (including shoulder in the clear zone)
    - Add 5’ on each side beyond structure approach
- 4 non-structure ramps between US20 and US229
  - Auxiliary lanes along US20 to US229 (AASHTO P. 814)
  - Max grade on ramp 3%
  - Terminal ramp spread: 610’ (HDM Figure 9-17)
  - Assume ramps connect to US229 at 18’ above US20 (3% down from overpass)
  - 6’ outer shoulder, 4’ inner shoulder
  - Exit Ramp – Total length:
    - Stop condition
    - Ramp design speed: 30 mph
    - Deceleration length: 315-ft

        - Transition length: 100-ft
        - 24 degree curve for exit curve
        - 238.73 ft radius exit curve
    - Entrance Ramp –
        - Ramp design speed 35 mph
        - Taper length 300’
        - Acceleration lane length 540’
        - Degree of curve 18 degrees
        - Entrance curve radius 318.31 ft
    - Terminal ramp spread (HDM Figure 9-17)
- Close off south access to US20 from Western Loop

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Western Junction Low Build		**PREPARED BY:**	**DATE:**
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Roadway, Earthwork, Drainage, Lighting, Structures		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Concrete Barrier	LF	900.0	$50.00	$45,000
3	New Roadway	Lane-Mi.	2.5	$412,500.00	$1,038,672
4	Earthwork (See Note)	Lane-Mi.	2.5	$26,400.00	$66,475
5	Traffic Calming	5-10%		-	$0
6	Illumination	Mi.		$260,000.00	$0
7	Landscaping	Mi.		$235,000.00	$0
8	Bridges	SF		$150.00	$0
9	Walls	SF		$75.00	$0
			SUBTOTAL		***$1,150,147***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$28,800
	TP & DT	3.0-8.0%	8.0%		$92,000
	Mobilization	8.0-10.0%	10.0%		$115,000
	Erosion Control	0.5-2.0%	2.0%		$23,000
	Contingency	30-40%	40.0%		$460,100
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$1,869,047***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$280,400
	Construction Engineering		10.0%		$186,900
			TOTAL PROJECT COST		**$2,336,000**

Assumptions:

Assumes widening about the center along US20
Assumes full-depth reconstruction of all existing pavement
Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
2320' WB lane with 8' right shoulder = 3865 lane-feet
2320' EB lane with 8' right shoulder = 3865 lane-feet
560' right turn lane with 250' taper length, 810' of 6-ft shoulder = 1090 lane-feet
Left turn lane from Bus. US20:
170' lane with 340' of 4' shoulder = 285 lane-feet
West of intersection:
1240' long 26' wide median, includes acceleration lane and non-travel median = 2690 lane-feet
650' to taper out median = 705 lane-feet
East of intersection:
26' to 14' width taper, equals avg. 20' width over 480' = 800 lane-feet
900' of barrier needed for center median
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Western Junction Roundabout		**PREPARED BY:** B. Adams	**DATE:** 2/14/2013
DESIGN LEVEL: Planning			
KIND OF WORK: Roadway, Earthwork, Drainage, Lighting, Structures		**LENGTH (MILE):** 0.52	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	2.05	$412,500.00	$843,750
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	Roundabout	EA	1	$500,000.00	$500,000
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	2.05	$26,400.00	$54,000
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.	0.25	$260,000.00	$65,000
13	Landscaping	Mi.	0.50	$235,000.00	$117,500
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$1,580,250***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$39,500
	TP & DT	3.0-8.0%	8.0%		$126,400
	Mobilization	8.0-10.0%	10.0%		$158,000
	Erosion Control	0.5-2.0%	2.0%		$31,600
	Contingency	30-40%	40.0%		$632,100
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$2,567,850***

ANTICIPATED ADDITIONAL COSTS

		UNIT	QUANTITY	UNIT COST	COST
	Sensitive Area Impact Mitigation	LS	1	$100,000.00	$100,000
	Railroad Crossing	EA		$600,000.00	$0

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$385,200
	Construction Engineering		10.0%		$256,800
			TOTAL PROJECT COST		**$3,310,000**

Assumptions:

Assumes wetland impacts due to OR229 realignment
Assumes 2 Lane Roundabout
Assumes multi-lane approaches and exits on all legs except for the North Leg
Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
No Right-of-Way Costs are considered

OR229, north of intersection: 2100 lane-feet

1 SB Lane = 700 lane-feet

1 NB Lane = 700 lane-feet

1400' of 6-ft shoulder = 700 lane-feet

OR229, south of intersection: 2920 lane-feet

Two 200' SB lanes, with 480' taper length (40:1) for lane reduction = 1120 lane-feet

Two 200' NB lanes, with 480' taper length (40:1) for lane add = 1120 lane-feet

1360' of 6-ft shoulder = 680 lane-feet

US20, east of intersection: 2920 lane-feet

Two 200' EB lanes, 480' taper length (40:1) for lane reduction = 1120 lane-feet

Two 200' WB lanes, 480' taper length (40:1) for lane add = 1120 lane-feet

1360' of 6-ft shoulder = 680 lane-feet

US20, west of intersection: 2920 lane-feet

Two 200' EB lanes, 480' taper length (40:1) for lane add = 1120 lane-feet

Two 200' WB lanes, 480' taper length (40:1) for lane reduction = 1120 lane-feet

1360' of 6-ft shoulder = 680 lane-feet

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Western Junction Traffic Signal		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:	Roadway, Earthwork, Signal	**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	7.3	$412,500.00	$3,021,094
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA	1	$300,000.00	$300,000
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	7.3	$26,400.00	$193,350
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF	1140.0	$150.00	$171,000
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$3,685,444***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$92,100
	TP & DT	3.0-8.0%	8.0%		$294,800
	Mobilization	8.0-10.0%	10.0%		$368,500
	Erosion Control	0.5-2.0%	2.0%		$73,700
	Contingency	30-40%	40.0%		$1,474,200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$5,988,744***

ANTICIPATED ADDITIONAL COSTS

		UNIT	QUANTITY	UNIT COST	COST
	Sensitive Area Impact Mitigation	LS	1	$100,000.00	$100,000
	Railroad Crossing	EA		$600,000.00	$0

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$898,300
	Construction Engineering		10.0%		$598,900
			TOTAL PROJECT COST		**$7,586,000**

Assumptions:

- Assumes wetland impacts due to OR229 realignment
- Assumes full-depth reconstruction of all existing pavement
- Realign OR229 for 90-degree intersection with US20
- Assumes structure widening to OR229 bridge
- Design speed of 40 mph on OR229, south of extg. structure

Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
Assumes 12' lanes, including turn lanes
Assume amount of pavement for tapers equals taper length divided by two

OR229, north of intersection: 5100 lane-feet

Two 780' NB lanes, with 480' taper length (40:1) for lane reduction = 2280 lane-feet
Lane reduction occurs north of s-curve
1 SB Lane = 1260', 2 turn pockets at 100' and each with 100' taper length = 1560 lane-feet
2520' of 6-ft shoulder = 1260 lane-feet

OR229, south of intersection: 2290 lane-feet

1 SB Lane = 450 lane-feet
1 NB Lane = 450 lane-feet
100' right turn pocket with 100' taper; Two 350' left pockets with 180' taper length = 940 lane-feet
900' of 6-ft shoulder = 450 lane-feet

US20, east of intersection: 24300 lane-feet

Two 4800' EB lanes = 9600 lane-feet
Two 4800' WB lanes = 9600 lane-feet
Two WB 100' turn pockets with 100' taper lengths = 300 lane-feet
9600' of 8-ft shoulder = 4800 lane-feet

US20, west of intersection: 6980 lane-feet

Two 700' WB lanes, with 600' taper length (50:1) for lane reduction = 2300 lane-feet
Two 700' EB lanes, with 600' taper length (50:1) for lane add = 2300 lane-feet
Two EB 300' turn pockets with 360' taper length, one 250' turn pocket with 100' taper = 1080 lane-feet
2600' of 8-ft shoulder = 1300 lane-feet

No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Right Turn Pocket on eastbound Bus. Loop 20 @ A Street		**PREPARED BY:** B. Adams	**DATE:** 2/14/2013
DESIGN LEVEL: Planning			
KIND OF WORK: Roadway, Earthwork, Drainage, Signal, Lighting		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.05	$935,700.00	$44,304
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.04	$412,500.00	$16,016
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA	1	$75,000.00	$75,000
10	Earthwork	CY	2,000	$7.50	$15,000
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.	0.00	$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Retaining Wall (H>=4')	SF	1,000	$75.00	$75,000
			SUBTOTAL		***$225,320***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$5,600
	TP & DT	3.0-8.0%	5.0%		$11,300
	Mobilization	8.0-10.0%	10.0%		$22,500
	Erosion Control	0.5-2.0%	2.0%		$4,500
	Contingency	30-40%	40.0%		$90,100
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$359,320***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$53,900
	Construction Engineering		10.0%		$35,900
			TOTAL PROJECT COST		**$449,000**

Assumptions:

Turn pocket: (205 lane-feet)
- Storage Length: 100' (no traffic study)
- Taper length: 150'
- 14' Width

Include 6' sidewalk

Retaining Wall approx. 200' long x 5' avg. Height

Relocate 1 traffic signal post

No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Improve East Slope Road Vertical Alignment		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:	Roadway, Earthwork, Drainage, Demo	**LENGTH (MILE):** 0.18	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.5	$412,500.00	$222,750
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY	12,000	$7.50	$90,000
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$312,750***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$7,800
	TP & DT	3.0-8.0%	8.0%		$25,000
	Mobilization	8.0-10.0%	10.0%		$31,300
	Erosion Control	0.5-2.0%	2.0%		$6,300
	Contingency	30-40%	40.0%		$125,100
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$508,250***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$76,200
	Construction Engineering		10.0%		$50,800
			TOTAL PROJECT COST		**$635,000**

Assumptions:

Assumes reconstructing 2 x 12' travel lanes and 2 x 6' shoulders for 950' along East Slope Road
Rebuild road to improve vertical alignment and therefore improve sight distance
Retain horizonal alignment
Earthwork assumes lowering the road an avg. of 1.5' and 18' pavement section
Proposed pavement section is 8" AC over 10" Agg. Base
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Realign Burgess Road @ Bus. Loop 20		**PREPARED BY:** B. Adams	**DATE:** 2/14/2013
DESIGN LEVEL: Planning			
KIND OF WORK: Roadway, Earthwork, Drainage, Demo		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.34	$412,500.00	$140,625
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY	0.34	$26,400.00	$9,000
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$149,625***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.0%		$3,000
	TP & DT	3.0-8.0%	5.0%		$7,500
	Mobilization	8.0-10.0%	10.0%		$15,000
	Erosion Control	0.5-2.0%	2.0%		$3,000
	Contingency	30-40%	40.0%		$59,900
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$238,025***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$35,700
	Construction Engineering		10.0%		$23,800
			TOTAL PROJECT COST		**$298,000**

Assumptions:

Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)

Burgess Road: (900 lane-feet)

Two 300' Lanes = 600 lane-feet

600' of 6-ft shoulder = 300 lane-feet

Bus. US20: (900 lane-feet)

Assume minor reconstruction along Bus. US20 only north of Burgess

Two 300'Lanes = 600 lane-feet

600' of 6-ft shoulder = 300 lane-feet

No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Sturdevant Roadway Realignment for Siletz Site Access		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:		**LENGTH (MILE):**	**SHEET:**
	Roadway, Earthwork, Drainage, Signs	0.22	1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.7	$412,500.00	$275,391
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	0.7	$26,400.00	$17,625
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$293,016***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$7,300
	TP & DT	3.0-8.0%	8.0%		$23,400
	Mobilization	8.0-10.0%	10.0%		$29,300
	Erosion Control	0.5-2.0%	2.0%		$5,900
	Contingency	30-40%	40.0%		$117,200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$476,116***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$71,400
	Construction Engineering		10.0%		$47,600
			TOTAL PROJECT COST		**$595,000**

Assumptions:

Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)

Sturdevant Road: (3525 lane-feet)

Two 1175' Lanes = 2350 lane-feet

2350' of 6-ft shoulder = 1175 lane-feet

No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Pavement Markings to 1st Street Railroad Crossing		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:		**LENGTH (MILE):**	**SHEET:**
	Striping		1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.00	$935,700.00	$0
2	Thermoplastic Pavement Striping	LF	505.0	$1.00	$505
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.	0.00	$260,000.00	$0
13	Landscaping	Mi.	0.00	$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
	SUBTOTAL				***$505***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$0
	TP & DT	3.0-8.0%	3.0%		$0
	Mobilization	8.0-10.0%	10.0%		$100
	Erosion Control	0.5-2.0%	5.0%		$0
	Contingency	30-40%	40.0%		$200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
	TOTAL CONSTRUCTION COST				***$805***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$120
	Construction Engineering		10.0%		$80
	TOTAL PROJECT COST				**$1,000**

Assumptions:

Replace Stop Bar on east leg (1st Street): 25' x 3 (paid for as a 4" stripe) = 75'
Replace inside fog stripe for right turns from 1st to Butler Bridge = 100'
Add skipe strip for left turns from Butler Bridge to 1st: 115' x 0.25 = 30'
Replace crosswalk striping across 1st = 50' x 2 x 3 (paid for as a 4" stripe) = 300'

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Burgess Road Sidewalk		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:		**LENGTH (MILE):**	**SHEET:**
	Roadway	0.19	1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.09	$935,700.00	$87,545
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$87,545***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$2,200
	TP & DT	3.0-8.0%	3.0%		$2,600
	Mobilization	8.0-10.0%	10.0%		$8,800
	Erosion Control	0.5-2.0%	2.0%		$1,800
	Contingency	30-40%	40.0%		$35,000
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$137,945***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$20,700
	Construction Engineering		10.0%		$13,800
			TOTAL PROJECT COST		**$172,000**

Assumptions:

988' along Burgess Road
6' Sidewalk on 1 side of the road
Assumes no other roadway improvements
Assumes required earthwork is minimal to none
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:	Bus. Loop 20 Sidewalk_East Slope to Sturdevant	PREPARED BY:	DATE:
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:	Roadway, Earthwork, Drainage	LENGTH (MILE): 0.76	SHEET: 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.38	$935,700.00	$355,566
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.38	$412,500.00	$157,031
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	0.38	$26,400.00	$10,050
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF	900	$50.00	$45,000
			SUBTOTAL		***$567,647***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$5,700
	TP & DT	3.0-8.0%	3.0%		$17,000
	Mobilization	8.0-10.0%	8.0%		$45,400
	Erosion Control	0.5-2.0%	2.0%		$11,400
	Contingency	30-40%	40.0%		$227,100
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$874,247***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$131,100
	Construction Engineering		10.0%		$87,400
			TOTAL PROJECT COST		**$1,093,000**

Assumptions:

Proposed Curb and 6' Sidewalk along eastside of Bus. US20
Sawcut and widen US20 to include a 6' bike lane
4015' of 6' bike lane = 2010 lane-feet
Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
No structure widening on bridge across West Olalla Creek
Retaining Wall approx. 225' long x 4' avg. height near NE 8th Pl
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Bus. Loop 20 Sidewalk_US20 to NW 6th		**PREPARED BY:**	**DATE:**
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Roadway, Earthwork, Drainage		**LENGTH (MILE):** 0.36	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.36	$935,700.00	$336,710
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.18	$412,500.00	$74,219
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	0.36	$26,400.00	$9,500
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$50.00	$0
			SUBTOTAL		***$420,429***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$4,200
	TP & DT	3.0-8.0%	3.0%		$12,600
	Mobilization	8.0-10.0%	8.0%		$33,600
	Erosion Control	0.5-2.0%	2.0%		$8,400
	Contingency	30-40%	40.0%		$168,200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$647,429***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$97,100
	Construction Engineering		10.0%		$64,700
			TOTAL PROJECT COST		**$809,000**

Assumptions:

Proposed Curb and 6' Sidewalk along westside of Bus. US20
Sawcut and widen US20 to include a 6' bike lane
1900' of 6' bike lane = 950 lane-feet
Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
No structure widening on bridge across West Olalla Creek
Retaining Wall approx. 225' long x 4' avg. height near NE 8th Pl
Excludes Multi-Use Boardwalk section (approx. 1725')
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Multi-Use Path (Boardwalk) along Bus. Loop 20 between US20 & NW 6th		**PREPARED BY:**	**DATE:**
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Earthwork, Structure		**LENGTH (MILE):** 0.33	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-Use Path (Boardwalk)	SF	17250.0	$50.00	$862,500
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY	5,000	$7.50	$37,500
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$50.00	$0
			SUBTOTAL		***$900,000***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.0%		$18,000
	TP & DT	3.0-8.0%	3.0%		$27,000
	Mobilization	8.0-10.0%	10.0%		$90,000
	Erosion Control	0.5-2.0%	2.0%		$18,000
	Contingency	30-40%	40.0%		$360,000
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$1,413,000***

ANTICIPATED ADDITIONAL COSTS

		UNIT	QUANTITY	UNIT COST	COST
	Sensitive Area Impact Mitigation	LS	1	$100,000.00	$100,000
	Railroad Crossing	EA		$600,000.00	$0

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$212,000
	Construction Engineering		10.0%		$141,300
			TOTAL PROJECT COST		**$1,866,000**

Assumptions:

- Assumes sensitive area impact
- Along westside of Bus. US20
- Assumes 10' wide x 1725' long wooden boardwalk
- Excludes sidewalk construction portion
- No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Douglas Street/3rd Street Sidewalk			PREPARED BY:		DATE:
DESIGN LEVEL: Planning			B. Adams		2/14/2013
KIND OF WORK: Roadway			LENGTH (MILE): 0.07		SHEET: 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.03	$935,700.00	$31,899
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$31,899***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$800
	TP & DT	3.0-8.0%	3.0%		$1,000
	Mobilization	8.0-10.0%	10.0%		$3,200
	Erosion Control	0.5-2.0%	2.0%		$600
	Contingency	30-40%	40.0%		$12,800
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$50,299***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$7,500
	Construction Engineering		10.0%		$5,000
			TOTAL PROJECT COST		**$63,000**

Assumptions:

- 360' near Community Center at 3rd and Douglas
- 6' Sidewalk on 1 side of the road
- Assumes no other roadway improvements
- Assumes required earthwork is minimal to none
- No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: East Slope Road Sidewalk Extension		PREPARED BY:	DATE:
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Roadway, Earthwork, Drainage		LENGTH (MILE): 0.42	SHEET: 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.21	$935,700.00	$194,938
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.	0.21	$412,500.00	$85,938
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	Lane-Mi.	0.21	$26,400.00	$5,500
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$286,375***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$2,900
	TP & DT	3.0-8.0%	3.0%		$8,600
	Mobilization	8.0-10.0%	8.0%		$22,900
	Erosion Control	0.5-2.0%	2.0%		$5,700
	Contingency	30-40%	40.0%		$114,600
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$441,075***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$66,200
	Construction Engineering		10.0%		$44,100
			TOTAL PROJECT COST		**$551,000**

Assumptions:

Proposed Curb and 6' Sidewalk along northside of East Slope Road between 10th St. & Butler Bridge
Sawcut and widen East Slope Road to include a 6' bike lane
2200' of 6' bike lane = 1100 lane-feet
Only earthwork estimated is to construct the proposed pavement section. (8" AC over 10" Agg. Base)
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:	PREPARED BY:	DATE:
Highly Visible Crosswalks at both Jr/Sr High School & Elementary School	B. Adams	2/14/2013
DESIGN LEVEL: Planning		
KIND OF WORK: Signs, Striping	**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	New Signs - Small	EA	12.00	$500.00	$6,000
2	School Crossing with RRFB	EA	2.0	$14,000.00	$28,000
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$34,000***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$300
	TP & DT	3.0-8.0%	8.0%		$2,700
	Mobilization	8.0-10.0%	10.0%		$3,400
	Erosion Control	0.5-2.0%	2.0%		$700
	Contingency	30-40%	40.0%		$13,600
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$54,700***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$8,200
	Construction Engineering		10.0%		$5,500
			TOTAL PROJECT COST		**$68,000**

Assumptions:

Assumes a Rectangular Rapid Flashing Beacon (RRFB) at each crossing
Provide crosswalk markings and "SCHOOL" marking (MUTCD Fig 7C-1)
Each crosswalk will need 4 school crossing assemblies (MUTCD Fig 7B-1)
School advance crossing assembly, 4 signs per crossing (MUTCD Fig 7B-1))

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Pedestrian Advisory Signs @ Butler Bridge & 1st Street Intersection		**PREPARED BY:** B. Adams	**DATE:** 2/14/2013
DESIGN LEVEL: Planning			
KIND OF WORK: Signing		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.00	$935,700.00	$0
2	New Signs - Small	EA	8	$500.00	$4,000
3	Active Railroad Crossing	EA	1.0	$15,000.00	$15,000
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
	SUBTOTAL				***$19,000***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$200
	TP & DT	3.0-8.0%	3.0%		$600
	Mobilization	8.0-10.0%	10.0%		$1,900
	Erosion Control	0.5-2.0%	0.0%		$0
	Contingency	30-40%	40.0%		$7,600
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
	TOTAL CONSTRUCTION COST				***$29,300***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$4,400
	Construction Engineering		10.0%		$2,900
	TOTAL PROJECT COST				**$37,000**

Assumptions:

Recommend installing active RR crossing on Butler Bridge Road, before left turn onto NW 1st St
Dependant on RR approval; Alternative: Install "STOP" sign with Stop Bar
Install advance warning sign (modified W10-11, MUTCD Fig 8B-4) on Butler Bridge Rd
At NW 1st and RR crossing, install sign R15-5 to prevent peds from crossing tracks on south side
On north side of NW 1st, provide signing on both ends of crossing (MUTCD Figure 8D-1)
3 signs and post on each end, 6 total

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT: Discourage Vehicles at SE 2nd Street Ped Crossing on SE Butler Bridge Road at Railroad Tracks		**PREPARED BY:**	**DATE:**
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Roadway, Signing		**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Bollard	EA	1.00	$2,000.00	$2,000
2	New Signs - Small	EA	6.0	$500.00	$3,000
3	Conc. Curb	LF	30.0	$15.00	$450
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$5,450***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$100
	TP & DT	3.0-8.0%	3.0%		$200
	Mobilization	8.0-10.0%	10.0%		$500
	Erosion Control	0.5-2.0%	0.0%		$0
	Contingency	30-40%	40.0%		$2,200
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$8,450***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$1,300
	Construction Engineering		10.0%		$800
			TOTAL PROJECT COST		**$11,000**

Assumptions:

Install bollard on westside of railroad tracks to prevent cars from using crosswalk for existing lot

Provide Signing on both ends of crosswalk (MUTCD Figure 8D-1)

3 signs on each end = 6 total

Curb parking lot side to make crosswalk seem narrower to cars

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
	Multi-Use Path along Studevant Road		
DESIGN LEVEL:	Planning	B. Adams	2/14/2013
KIND OF WORK:	Roadway, Earthwork, Drainage, Structure	**LENGTH (MILE):** 1.85	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.		$935,700.00	$0
2	Multi-use Path	Mi.	1.3	$217,900.00	$283,270
3	Multi-Use Path (Boardwalk)	SF	29000.0	$50.00	$1,450,000
4	Timber Pedestrian Rail	LF	5800.0	$45.00	$261,000
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Signal Modifications	EA		$75,000.00	$0
8	Earthwork (See Note)	CY	5,000	$7.50	$37,500
9	Traffic Calming	5-10%		-	$0
10	Illumination	Mi.		$260,000.00	$0
11	Landscaping	Mi.		$235,000.00	$0
12	Bridges	SF		$150.00	$0
13	Walls	SF		$75.00	$0
			SUBTOTAL		***$2,031,770***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$50,800
	TP & DT	3.0-8.0%	8.0%		$162,500
	Mobilization	8.0-10.0%	10.0%		$203,200
	Erosion Control	0.5-2.0%	2.0%		$40,600
	Contingency	30-40%	40.0%		$812,700
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$3,301,570***

ANTICIPATED ADDITIONAL COSTS

		UNIT	QUANTITY	UNIT COST	COST
	Sensitive Area Impact Mitigation	LS	1	$100,000.00	$100,000
	Railroad Crossing	EA		$600,000.00	$0

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$495,200
	Construction Engineering		10.0%		$330,200
			TOTAL PROJECT COST		**$4,227,000**

Assumptions:

Assumes sensitive area impact
Multi-Use Path (Asphalt) = 1.30 mi
Assumes 12' wide Multi-Use Path
Assume wooden boardwalk structure, 2900' long x 10' wide
Includes boardwalk connection west to East Slope Road
Multi-Use Path (Boardwalk) = 0.55 mi
Includes timber pedestrian rail along both sides of entire Boardwalk
No Right-of-Way Costs are considered

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		PREPARED BY:	DATE:
Bay Boulevard Bicycle Wayfinding Signs			
DESIGN LEVEL: Planning		B. Adams	2/14/2013
KIND OF WORK: Signing	LENGTH (MILE):		SHEET: 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Bollard	EA		$2,000.00	$0
2	New Signs - Small	EA	10.0	$500.00	$5,000
3	Conc. Curb	LF		$15.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.		$260,000.00	$0
13	Landscaping	Mi.		$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
			SUBTOTAL		***$5,000***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	1.0%		$100
	TP & DT	3.0-8.0%	3.0%		$200
	Mobilization	8.0-10.0%	10.0%		$500
	Erosion Control	0.5-2.0%	0.0%		$0
	Contingency	30-40%	40.0%		$2,000
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
			TOTAL CONSTRUCTION COST		***$7,800***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**		$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$1,200
	Construction Engineering		10.0%		$800
			TOTAL PROJECT COST		**$10,000**

Assumptions:

Install bollard on westside of railroad tracks to prevent cars from using crosswalk for existing lot

Provide Bike Route Guide Signs (MUTCD D1-type):

1 downtown, 1 for bike coming into town = 2 signs

Provide Bike Route Signs (MUTCD D11-1 w/arrows):

2 locations, 2 signs per location, per direction = 8 signs

TOLEDO TSP - ORDER OF MAGNITUDE ESTIMATE

PROJECT:		**PREPARED BY:**	**DATE:**
DESIGN LEVEL:	Planning	Darren Hippenstiel	8/1/2012
KIND OF WORK:	Roadway, Earthwork, Drainage, Lighting, Structures	**LENGTH (MILE):**	**SHEET:** 1 of 1

NO.	ITEM	UNIT	QUANTITY	UNIT COST	COST
1	Curb, Gutter, Sidewalks & Drainage	Mi.	0.00	$935,700.00	$0
2	Multi-use Path	Mi.		$217,900.00	$0
3	New Roadway	Lane-Mi.		$412,500.00	$0
4	Overlay Existing Roadway	Lane-Mi.		$89,400.00	$0
5	Reconstruct Existing Roadway	Lane-Mi.		$438,900.00	$0
6	Intersection Widening	EA		$76,500.00	$0
7	Interconnect Signal	LS		$35,000.00	$0
8	New Signal	EA		$300,000.00	$0
9	Signal Modifications	EA		$75,000.00	$0
10	Earthwork (See Note)	CY		$7.50	$0
11	Traffic Calming	5-10%		-	$0
12	Illumination	Mi.	0.00	$260,000.00	$0
13	Landscaping	Mi.	0.00	$235,000.00	$0
14	Bridges	SF		$150.00	$0
15	Walls	SF		$75.00	$0
	SUBTOTAL				***$0***

	ADDITIONAL CONST. COSTS	SUGGESTED	PERCENTAGE		COST
	Construction Surveying	1.0-2.5%	2.5%		$0
	TP & DT	3.0-8.0%	8.0%		$0
	Mobilization	8.0-10.0%	10.0%		$0
	Erosion Control	0.5-2.0%	2.0%		$0
	Contingency	30-40%	40.0%		$0
	Escalation (per year)	0.5-2.0%	0.0%		$0
	Design Year				
	Construction Year		2013		
	TOTAL CONSTRUCTION COST				***$0***

	RIGHT OF WAY COSTS	UNIT	QUANTITY	UNIT COST	COST
	New Right of Way Acquisition	SF	**0**	$5.00	$0
	Structure(s)	LS	All		$0
	ENGINEERING COSTS	**SUGGESTED**	**PERCENTAGE**		**COST**
	Design Engineering		15.0%		$0
	Construction Engineering		10.0%		$0
	TOTAL PROJECT COST				**$0**

Assumptions:

Unit Cost Descriptions

ITEM	DESCRIPTION	UNIT	UNIT PRICE
Curb, Gutter, Sidewalks & Enclosed Drainage	~0.5-ft curb, 1.5-ft gutter pan and 7-ft wide sidewalk (each side) ~18-inch concrete pipe storm system w/ 2-ft of cover ~Storm manhole every 500 LF ~Standard catch basin every 250 LF (each side of the roadway)	Mile	#REF!
Bike Boulevard	Separated bike facility: ~11-ft wide, 2-in of AC and 12-in of aggregate base ~Clearing and grubbing and removal of structures are included ~20-ft long 12-in culverts every 400 LF	Mile	#REF!
New Roadway	~Subgrade preparation, 6-in of AC, 14-in of aggregate base ~Clearing/grubbing, removal of struct. ~18-in culverts every 500 LF. ~1 solid stripe of thermoplastic pavement striping per lane	Lane-Mile	#REF!
Overlay Existing Roadway	~Grinding 25% of existing surface and 2-in of new AC ~1 solid stripe of thermoplastic pavement striping per lane	Lane-Mile	#REF!
Reconstruct Existing Roadway	Removal of existing roadway and rebuilding a new facility: ~Removal cost of 4-in AC and 14-in aggregate base ~"New Roadway" cost (listed above)	Lane-Mile	#REF!
Intersection Widening	Widening two approaches of an existing intersection: ~4 lanes for 150 LF (2 left turn lanes and 2 right turn bay) ~Demolition of all approach curbs and sidewalks. ~6-in AC and 14-in aggregate base ~Curb, gutter, and sidewalk ft 300 LF per approach ~Relocation of obstructions, clearing/grubbing, landscaping ~2 solid stripes of thermoplastic pavement striping per lane	Each	#REF!
Roundabouts	Cost to construct 1-lane roundabout at existing intersection: ~4 lanes for 150 LF (2 left turn lanes and 2 right turn bay) ~Demolition of all approach curbs and sidewalks. ~6-in AC and 14-in aggregate base ~Curb, gutter, and sidewalk ft 300 LF per approach ~Relocation of obstructions, clearing/grubbing, landscaping ~2 solid stripes of thermoplastic pavement striping per lane	Each	#REF!
Restriping Existing Roadway	~Removal of existing striping and restriping of existing facility	Lane-Mile	#REF!
Interconnect Signal	~Lump sum cost to interconnect signal system	Lump Sum	#REF!
New Signal	~The signal system and all appurtenances (pole, wiring, detection devices, etc) for one intersection	Each	#REF!
Signal Modifications	~All evaluations and modifications	Each	#REF!
Earthwork Calculated	~Cut/Fill from InRoads Earthwork Calculator	LS	#REF!
Earthwork Estimated	Estimated Based on Roadway Section	CY	#REF!

Illumination	~luminaire, pole, wiring, and all other appurtenances ~one light pole on each side of the roadway every 200 LF	Mile	#REF!
Landscaping	~Plantings, topsoil, and irrigation requirements	Mile	#REF!
Bridges	~Based on estimated square footage of bridge	Square Foot	VARIES
Walls	~Cost of Standard Retaining Wall	Square Foot	#REF!

Additional Construction & Engineering Costs

ITEM	DESCRIPTION		
General Construction Costs	Insert the desired percentage from the common range for each factor: ~Construction Surveying: 1.0-2.5% ~Temporary Protection and Direction of Traffic: 3.0-8.0% ~Mobilization: 8.0-10.0% ~Erosion Control: 0.5-2.0%		
Contingency Factor	General Contingency for Construction Costs: 30-40%.		
Escalation Factor	Given the year and escalation percentage, this estimate can roughly approximate yearly inflation of prices: ~Insert the desired yearly percentage from the common range: 0.5-2.0% ~Insert the design year (must be 2007 or later) ~Insert the construction year (must be design year or later)		
Right-of-Way	Basic ROW estimator based on anticipated ROW area to be acquired	Square Foot	#REF!
Engineering Costs	Calculated as a percentage of the total Construction Costs: ~Design Engineering: 13.0% ~Construction Engineering: 10.0%		

Unit Costs (Based on Development

Curb, Gutter, Sidewalks, & Enclosed Drainage (Unit: Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Concrete Curb and Gutter	LF	10,560	$15.00	$158,400.00
Concrete Sidewalk	SF	63,360	$5.00	$316,800.00
15 Inch Storm Sewer Pipe, 10' deep	LF	5,280	$65.00	$343,200.00
Storm Manhole	EA	21	$2,400.00	$50,400.00
Standard Catch Basin	EA	42	$1,200.00	$50,400.00
			SUBTOTAL	$919,200.00
Clearing and Grubbing - 0.6%				$5,515.20
Removal of Structures - 1.2%				$11,030.40
			TOTAL UNIT COST	**$935,700.00**

Multi-use Path (Unit: Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Asphalt	TN	802	$95.00	$76,168.89
Aggregate Base	TN	5,788	$20.00	$115,768.89
12 Inch Storm Sewer Pipe, 5' deep	LF	260	$85.00	$22,100.00
			SUBTOTAL	$214,037.78
Clearing and Grubbing - 0.6%				$1,284.23
Removal of Structures - 1.2%				$2,568.45
			TOTAL UNIT COST	**$217,900.00**

Multi-use Path Broadwalk (Unit: SF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Broadwalk	SF		$50.00	$50.00
			TOTAL UNIT COST	**$50.00**

New Roadway (Unit: Lane-Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Asphalt	TN	3,207	$95.00	$304,675.56
Aggregate Base	TN	4,341	$20.00	$86,826.67
15 Inch Storm Sewer Pipe, 10' deep	LF	130	$65.00	$8,450.00
Excavation	CY	-	$7.50	$0.00
Embankment	CY	-	$7.50	$0.00
Thermoplastic Pavement Striping	LF	5,280	$1.00	$5,280.00
			SUBTOTAL	$405,232.22
Clearing and Grubbing - 0.6%				$2,431.39
Removal of Structures - 1.2%				$4,862.79
			TOTAL UNIT COST	**$412,500.00**

New Roadway (Unit: SF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
New Roadway/SF per Lane Mile	SF	1	$6.51	$6.51
			TOTAL UNIT COST	**$7.00**

Overlay Existing Roadway (Unit: Lane-Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Asphalt	TN	802	$95.00	$76,168.89
Cold Plane Pavement Removal	SF	15,840	$0.50	$7,920.00
Thermoplastic Pavement Striping	LF	5,280	$1.00	$5,280.00
			TOTAL UNIT COST	**$89,400.00**

Reconstruct Existing Roadway (Unit: Lane-Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Excavation	CY	3,520	$7.50	$26,400.00
New Roadway	-	-	-	$412,500.00
			TOTAL UNIT COST	**$438,900.00**

Intersection Widening (Unit: Each)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Asphalt	TN	296	$95.00	$28,130.56
Aggregate Base	TN	624	$20.00	$12,470.37
Concrete Curb and Gutter	LF	600	$15.00	$9,000.00
Sidewalk	SF	4,200	$5.00	$21,000.00
Demolition of Extg. Curb/Sidewalk	CY	200	$15.00	$3,000.00
Thermoplastic Pavement Striping	LF	1,200	$1.00	$1,200.00
			SUBTOTAL	$74,800.93
Clearing and Grubbing - 0.6%				$448.81
Removal of Structures - 1.2%				$897.61
Landscaping - 0.5%				$374.00
			TOTAL UNIT COST	**$76,500.00**

Large Roundabouts (Unit: Each)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Roundabout	EA	1	$500,000.00	$500,000.00
			TOTAL UNIT COST	**$500,000.00**

Small Roundabouts (Unit: Each)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Roundabout	EA	1	$350,000.00	$350,000.00
			TOTAL UNIT COST	**$350,000.00**

Restriping Existing Roadway (Unit: Lane-Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Stripe Removal	LF	5,280	$0.65	$3,432.00
Thermoplastic Pavement Striping	LF	5,280	$1.00	$5,280.00
			TOTAL UNIT COST	**$8,700.00**

Bike Lane Colored Marking (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Bike Lane Colored Marking	SF	1	$2.00	$2.00
			TOTAL UNIT COST	$2.00

Interconnnect Signal (Unit: Lump Sum)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Interconnect Signal System	LS	1	$35,000.00	$35,000.00
			TOTAL UNIT COST	$35,000.00

New Signal (Unit: Each)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
New Signal	LS	1	$300,000.00	$300,000.00
			TOTAL UNIT COST	$300,000.00

Signal Modifications (Unit: Each)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Modify Signal	LS	1	$75,000.00	$75,000.00
			TOTAL UNIT COST	$75,000.00

Earthwork Estimated (Unit: Lane-Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Excavation	CY	3,520	$7.50	$26,400.00
			TOTAL UNIT COST	$26,400.00

Earthwork Estimated (Unit: CY)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Earthwork (Cut/Fill)	CY	1	$7.50	$7.50
			TOTAL UNIT COST	$7.50

Illumination (Unit: Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Luminaire and appurtenances	EA	52	$ 5,000.00	$260,000.00
			TOTAL UNIT COST	$260,000.00

Illumination (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Luminaire and appurtenances	EA	1	$ 5,000.00	$5,000.00
			TOTAL UNIT COST	$5,000.00

Landscaping (Unit: Mile)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Landscaping	LS	1	$ 235,000.00	$235,000.00
			TOTAL UNIT COST	$235,000.00

Landscaping (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Landscaping	SF	1	$ 5.56	$5.56
			TOTAL UNIT COST	$5.60

Bridges - Short Span (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
	SF	1	$185.00	$185.00
			TOTAL UNIT COST	$185.00

Bridges - Long Span (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
	SF	1	$250.00	$250.00
			TOTAL UNIT COST	$250.00

Walls (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Retaining Wall (H>=4')	LS	1	$75.00	$75.00
			TOTAL UNIT COST	$75.00

Walls (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Retaining Wall (H<4')	LS	1	$50.00	$50.00
			TOTAL UNIT COST	$50.00

Right-of-Way - Undeveloped (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Right-of-Way Acquisition	LS	1	$5.00	$5.00
			TOTAL UNIT COST	$5.00

Right-of-Way - Developed (Unit: Square Foot)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Right-of-Way Acquisition	LS	1	$8.00	$8.00
			TOTAL UNIT COST	$8.00

Fence Reconstruction (Unit: LF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Fence Construction	LF	1	$25.00	$25.00
			TOTAL UNIT COST	$25.00

New Signs - Small (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Signs	EA	1	$500.00	$500.00
			TOTAL UNIT COST	$500.00

New Signs - Large (Unit: SF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Signs	SF	1	$120.00	$120.00
			TOTAL UNIT COST	$120.00

New Signs Supports (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Sign Supports	EA	1	$50,000.00	$50,000.00
			TOTAL UNIT COST	$50,000.00

Guardrail (Unit: LF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Guardrail	LF	1	$50.00	$50.00
			TOTAL UNIT COST	$50.00

Tree Removal (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Tree Removal	EA	1	$1,000.00	$1,000.00
			TOTAL UNIT COST	$1,000.00

Concrete Barrier (Unit: LF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Concrete Barrier	LF	1	$50.00	$50.00
			TOTAL UNIT COST	$50.00

Bus Pullouts (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Bus Pullouts	EA	1	$20,000.00	$20,000.00
			TOTAL UNIT COST	$20,000.00

Bus Shelter (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Bus Shelter	EA	1	$5,000.00	$5,000.00
			TOTAL UNIT COST	$5,000.00

Bus (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Bus	EA	1	$440,000.00	$440,000.00
			TOTAL UNIT COST	**$440,000.00**

Shuttle (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Shuttle	EA	1	$50,000.00	$50,000.00
			TOTAL UNIT COST	**$50,000.00**

Bollard (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Bollard	EA	1	$2,000.00	$2,000.00
			TOTAL UNIT COST	**$2,000.00**

Timber Pedestrian Rail (Unit: LF)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Timber Pedestrian Rail	LF	1	$45.00	$45.00
			TOTAL UNIT COST	**$45.00**

School Crossing Assembly with Rapid Flashing Beacons (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
School Crossing with RRFB	EA	1	$14,000.00	$14,000.00
			TOTAL UNIT COST	**$14,000.00**

Active Railroad Crossing (Unit: EA)

ITEM	UNIT	AMOUNT	UNIT COST	TOTAL
Active RR Crossing	EA	1	$15,000.00	$15,000.00
			TOTAL UNIT COST	**$15,000.00**

Appendix E
Street Standards

Toledo TSP: Transportation Facility Development Standards

This memorandum provides draft amendments to the City of Toledo Development Code to include street, sidewalk, bicycle lane, and multi-use path standards, originally developed in Technical Memorandum #4, Transportation System Proposed Improvements. These changes establish standards for local streets and off-street pedestrian and bicycle facilities as part of the Toledo Transportation System Plan (TSP). The facility standards are presented in table format and include roadway cross-section figures. These draft proposed amendments will be reviewed by the Project Management Team (PMT), the Project Advisory Committee (PAC), Toledo City Council, and the Toledo Planning Commission before they are included in the TSP.

Street standards are based on the City of Toledo Division 3: Street and Transportation System Design Standards Manual 2009 standards currently used and depend on street functional classification and the anticipated use (consistent with Oregon Administrative Rule 660-012-0045(7)). They include standards for lane width, sidewalks, bicycle facilities, and other street elements in the public right-of-way. The suggested revisions are in this appendix are one of amendments will be inserted in Title 16, Subdivisions, Section 16.04.040 General Provisions, new Section 16.14, Transportation Facility Standards, and Section 16.16 Planned Development Procedures. The action is described in *italics* at the beginning of each Chapter.

Proposed Amendments

Chapter 16.04 – General Provisions

Section 16.04.040, Definitions.

Action: Amend Section 16.04.04, Definitions within Chapter 16.04, General Provisions of Title 16, Subdivisions to add, remove, or modify the following definitions. Proposed language is underlined, and removed language is ~~struck through~~.

The terms and phrases used in this title are defined as follows:

"Alley" means a public way of not over twenty (20) feet wide providing a secondary means of access to private property.

"Arterial Road" means a high traffic volume street that accommodates longer-distance trips and prioritizes mobility over local access. In Toledo, no streets are designated as an arterial street.

"Bikeway" ~~"Bicycle path"~~ means a hard-surfaced bicycle ~~way~~ facility ~~with concrete or similar permanent surfacing~~ in public or private way designed for and dedicated to bicycle use. There are a number of different facilities considered bikeways: a shared lane in a road, a shared-use roadway shoulder, a dedicated bike lane within or on the shoulder of a road, a paved or boardwalk multi-use path, or other way that is specifically designated for bicycle travel or shared bicycle/pedestrian travel. See standards in Section 16.14.030.

"Building line" means a line on a plat, parallel to the road right-of-way, indicating the limit beyond which buildings or structures may not be erected, or the minimum distance as prescribed by the Toledo zoning ordinance between the front property line abutting a road and the closest point of the roof line of any building or structure on the land often referred to as a setback line.

"City" means the city of Toledo, Oregon.

"City manager" means the city manager of the city of Toledo, Oregon, or his/her designate(s).

"City recorder" means the city recorder of the city of Toledo, Oregon, or his/her designate(s).

"City street" means a public roadway which has been dedicated to the public and accepted by the city and created to provide ingress or egress to one or more lots, parcels, areas or tracts of land, including the terms "street," "highway," "lane," "avenue," "road" or similar designations. For the purpose of Title 16, the term "city street" includes improved public roadways dedicated to the public and accepted and maintained by either Lincoln County or the Oregon Department of Transportation.

“Collector Road” means a moderate traffic volume street that accommodates shorter local trips and balances the need for local property access and through traffic. Collector streets connect residential traffic on local streets with other collector and arterial streets. Within the City of Toledo, collector streets include Business Loop 20, Arcadia Drive, Skyline Road, Sturdevant Road, East Slope Road, Butler Bridge Road, and Yaquina Bay Road.

“Commercial Road” means a low speed, low traffic volume street that is within or adjacent to land zoned commercial or industrial with a high percentage of freight truck traffic. Commercial streets provide frontage and direct access for commercial and industrial uses. This designation is specific to streets in the industrially zoned area west of NW A Street adjacent to Industrial Way.

"Comprehensive land use plan" means the plan adopted by the city to serve as a guide to the orderly growth, development and improvement of the city, including a written text with goals and policies, a diagrammatic map of desired land use allocations, and any amendments to such text and map.

"Commission" means the Toledo planning commission.

"Council" means the Toledo city council.

"Curbline" means the line indicating the edge of the vehicular roadway within the overall right-of-way.

"Dividing or division of land" means to segregate an area or tract of land into two or more parcels.

"Easement" means the grant of a right-of-way use for a specific purpose, such as an easement for utility purposes across a parcel of land.

"Expedited land division" means a division of land for which an applicant specifically applies for an expedited land division and which meets the standards of ORS Section 197.360 as modified by city of Toledo standards noted in Section 16.20.030.

"Flooding" means the rise of a natural stream or other water body to the level at or above the intermediate regional flood, otherwise known as the one hundred (100) year flood, as determined by the U.S. Army Corps of Engineers, which periodically covers an area of land that is not under water at other times.

“Local Road” means a low speed, low traffic volume street that connects local traffic to collector and arterial streets and prioritizes local access to residences and businesses over through traffic.

"Lot" means a unit of land that is created by a partition or subdivision of land as defined by this title.

"Lot line adjustment" means a modification to lot lines or parcel boundaries which do not result in the creation of new lots and includes the consolidation of lots.

“Main Street”: means a low speed, moderate traffic volume local street that serves the downtown retail district and has an attractive, pedestrian-oriented streetscape with landscaping, wider sidewalks, and on-street parking. Main Street accommodates local and freight traffic associated with the downtown business district. This designation is specific to Main Street in downtown Toledo

"Mobilehome" means a double-wide (or wider) structure, transportable in sections, each built on a permanent chassis, and which is designed to be used for permanent occupancy as a single-family dwelling unit only.

“Multi-Use Path” means a pathway used by cyclists, pedestrians, skaters, joggers, wheelchair users and others that are physically separated from and prohibit motorized traffic. Multi-use paths may be located within a street right-of-way and the surface may be paved, gravel, or accommodated with a boardwalk. Paths can be used for either recreational or transportation purposes. See standards under Section 16.14.030.

"Natural hazard" means a natural event which can result in personal injury or property damage, such as flooding, landslides, soil erosion, or other damage resulting from water or soil movement.

"Owner" means the person who has ownership of land.

"Ownership" means the existence of legal or equitable title to land.

"Parcel" means a tax lot created by the division of land.

"Partitioning or partitioned land" means to divide a tract of land into two or three parcels (including the parent parcel) within one year of the date of the first segregation where such area or tract of land existed as a unit or contiguous units of land under a single ownership at the time of such segregation. "Partitioned land" does not include division of land resulting from the creation of cemetery lots; and "partitioned land" does not include any adjustment of a lot line by the relocation of a common boundary where an additional parcel is not created and where the existing parcel reduced in size by the adjustment, is not reduced below the minimum lot size established by the zoning ordinance. "Partitioned land" does not include the sale of a lot in a recorded subdivision, even though the lot may have been acquired prior to sale with other contiguous lots or properties by a single ownership.

"Major partition" means the partition of land which does not meet the standards for an expedited land division and which necessitates the creation of a street as a method of providing access.

"Minor partition" means the partition of land which does not meet the standards for an expedited land division and which does not necessitate the creation of a street.

"Pedestrian or bicycle way" means a right-of-way for pedestrian or bicycle traffic.

"Person" means and includes a natural person, firm, partnership, association, domestic or foreign corporation, joint stock company, trust or any incorporated organization.

"Planned development" means the development of an area of land as a single entity for a number of dwelling units or a number of uses, according to a plan which does not correspond in lot size, bulk or type of building, density, lot coverage or required open space to the regulations otherwise required by the city of Toledo zoning ordinance.

"Plat" means the map, diagram, replat and other writing containing the description, location, specifications, dedications, provisions and all other requirements pursuant to Chapters 16.12, 16.16 and 16.20 of this title regulating subdivisions and planned developments within the city.

“Principal Arterial” means a high traffic volume and limited access street that accommodates long-distance trips between and through urban areas. Principal arterials have little to no local residential and commercial access and

prioritize through movement, connecting mainly to arterials and collectors. US 20 is the only principal arterial in Toledo and is owned and maintained by the Oregon Department of Transportation (ODOT).

"Record" means to submit documents to the clerk of Lincoln County for the purpose of placing them in official public evidence.

"Replat, major" means the reconfiguring of lots in a recorded subdivision plat that results in either the creation of four or more additional lots or the deletion of four or more lots within a twelve (12) month period.

"Replat, minor" means the reconfiguring of a portion of the lots in a recorded subdivision or partition plat that results in three or fewer lots being created or deleted within a twelve (12) month period.

"Shared-use Shoulder" means a paved shoulder adjacent to a street travel lane for use by bicyclists and pedestrians. Shared-use shoulders occur on streets that do not include a constructed curb and gutter and lack sidewalks or bikeways.

"Sidewalk" means a ~~pedestrian~~ hard-surfaced walkway ~~with concrete surfacing, or similar permanent surfacing~~ within a public street right-of-way that is generally located adjacent to and separated from the roadway by a curb or planter strip. See standards in Section 16.14.030.

"Single ownership" means a person or group of persons who either singularly or jointly own a contiguous unit of land.

"Subdivide land" means to divide an area or tract of land into four or more parcels (including the parent parcel) within one year of the date of the first segregation when such area or tract of land existed as a unit or contiguous units under a single ownership at the time of such segregation.

"Subdivision" means an area of land that has been subdivided.

"Subdivider" means any person who undertakes the subdivision of land for the purpose of transfer of ownership or development at any time, whether immediate or future.

"Tract" means a contiguous area of land that exists or has existed in single ownership.
(Ord. 1301B § 1 (part), 2004)

Section 16.04.050, General Requirements and Minimum Standards of Design and Development

Action: Amend Title 16, Subdivisions to add a reference to local street design standards. Proposed language is underlined, and removed language is ~~struck through~~.

A. Conformity to the Comprehensive Plan. All partitions and subdivisions shall conform with all adopted portions of the comprehensive plan, transportation system plan, and all applicable ordinances and design standards of the city. Traffic facilities (including streets, pedestrian paths and bicycle paths), community and neighborhood facilities and recreational areas should be placed in approximately the same locations designated by the comprehensive plan, and transportation system plan.
B. Access. The partitioning and subdividing of land shall provide each lot or parcel, by means of a fully developed city street, satisfactory vehicular access to an existing street pursuant to Chapter 16.14 of this Code. The city street for the entire length that is adjacent to the parcel or lot which is being partitioned or subdivided must be a fully developed city street unless and exception is granted as per the following standards and procedures:

1. Partitions and subdivision of land that require the creation of a ~~city~~ public street to serve the proposed lots shall ~~be required to provide a city street in accordance~~ comply with the requirements of the adopted

street standards and shall include the public dedication of the required right-of-way in the adopted street standards.

Chapter 16.14 – Transportation Facility Standards

Action: Amend Title 16, Subdivisions to add section 16.14 Transportation Facility Standards. Proposed language is underlined.

Section 16.14.010, Purpose. The purpose of this section is to establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility and provide safe and convenient pedestrian and bicycle access in compliance with the Transportation Planning Rule (OAR 660-012). The Public Infrastructure Design Standards Manual shall be amended to incorporate these standards.

Section 16.14.020, Street and Multi-Use Path Design Standards. For new streets and multi-use paths, the rights-of-way and improvements shall be the widths in Section 16.14.030. A Class C Variance is necessary to vary the standards in Section 16.14.030 for new streets and multi-use paths. Existing streets and multi-use paths are exempt from these standards. Where an existing street or multi-use path is substantially rebuilt[1] and cannot meet these standards, then they may be waived following the Class C Variance process. Section 16.14.030 lists the standards for arterial, collector, commercial, and local roads, as well as the unique standards recommended for Main Street in downtown Toledo. The functional classification of existing streets is shown on the City's Transportation System Plan Maps.

Section 16.14.030 Summary of Transportation Facility Standards

Street and Multi-Use Path Design Standards

Type of Street	Road Width with Curbs[1]	Travel Lane	Center Median or Center Turn Lane	On-Street Parking	Bike Lane[2]	Sidewalk (ft)
Arterial						
3-Lane	63'	Two 12' travel lanes	14'	None	6' on both sides	6' on both sides
2-Lane	49'	Two 12' travel lanes	None	None	6' on both sides	6' on both sides
Collector[3]	45'	Two 12' travel lanes	None	None	5' on both sides	5' on both sides
Commercial	77'	Two 12' travel lanes	14'	8' on both sides	5' on both sides	6' on both sides
Local						
Preferred	55'	Two 14' travel lanes	None	8' on both sides	Cyclists share the travel lane	5' on both sides
Minimum	39'	Two 14' travel lanes	None	None	Cyclists share the travel lane	5' on both sides
Main Street	61'	Two 12' travel lanes	None	8' on both sides	None	10' on both sides
Multi-Use Path	N/A	N/A	N/A	N/A	12' total width (10' paved trail with 1' gravel shoulders)	
Boardwalk Path	N/A	N/A	N/A	N/A	12' total width with side railings; 10' if no rails are used	

[1] Six inch curbs are assumed on either side
[2] Bike lanes could be substituted for a 4' shared use shoulder where topography or other right-of-way constraints exist, at the discretion of the Planning Commission
[3] Collector standards apply to the Special Downtown Business District on Business Loop 20 between A Street and NE 3rd Street

1 "Substantially rebuilt" refers to a construction project where the pavement or asphalt of the street is removed down to the base rock foundation and rebuilt.

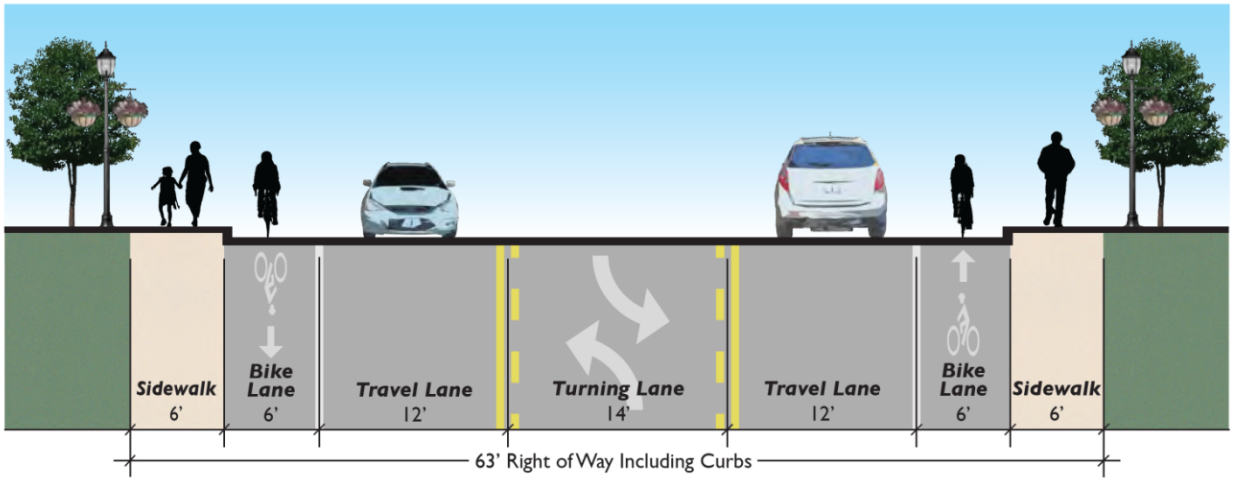
Section 16.14.040, Bikeway Standards. Pursuant to the Statewide Transportation Planning Rule (OAR 660-012), arterial and collector street widths must include width requirements for bikeways in addition to travel lanes. These bikeways must be no less than five (5) feet wide, in each direction of travel. The Planning Commission will decide whether bikeways are to be bicycle lanes, shared use shoulders, or multi-use paths based on the City's evaluation of bicycle use, right-of-way constraints, and topography. Paved and boardwalk or multi-use path facility standard widths are also included in Section 16.14.030. The proposed citywide bicycle and pedestrian network is shown on the City's Transportation System Plan Maps.

Section 16.14.050, Street Cross Section Figures. The standards shown in Figures 16.14.050A through 16.14.050C include the cross sections for each of the roadway classifications.

Figure 16.14.050A

Arterial Road Standards

3-LANE **ARTERIAL** ROAD



2-LANE **ARTERIAL** ROAD

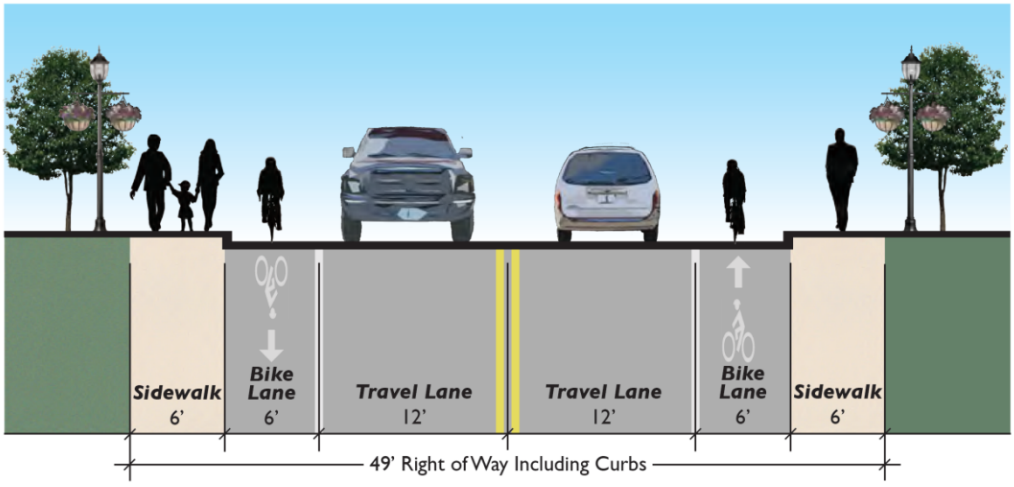
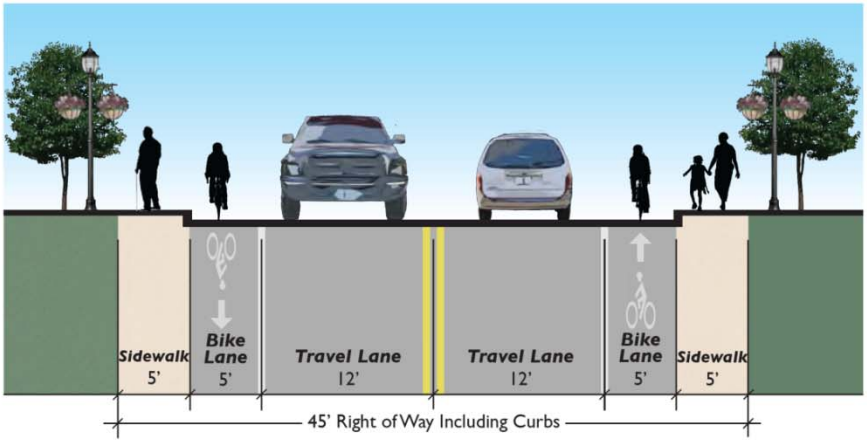


Figure 16.14.050B

Collector and Commercial Road Standards

COLLECTOR ROAD



COMMERCIAL ROAD

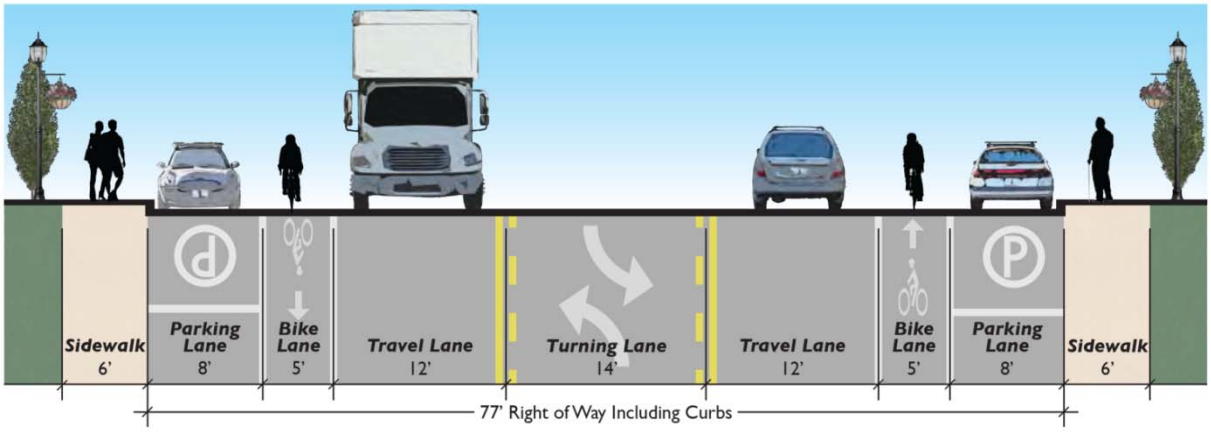
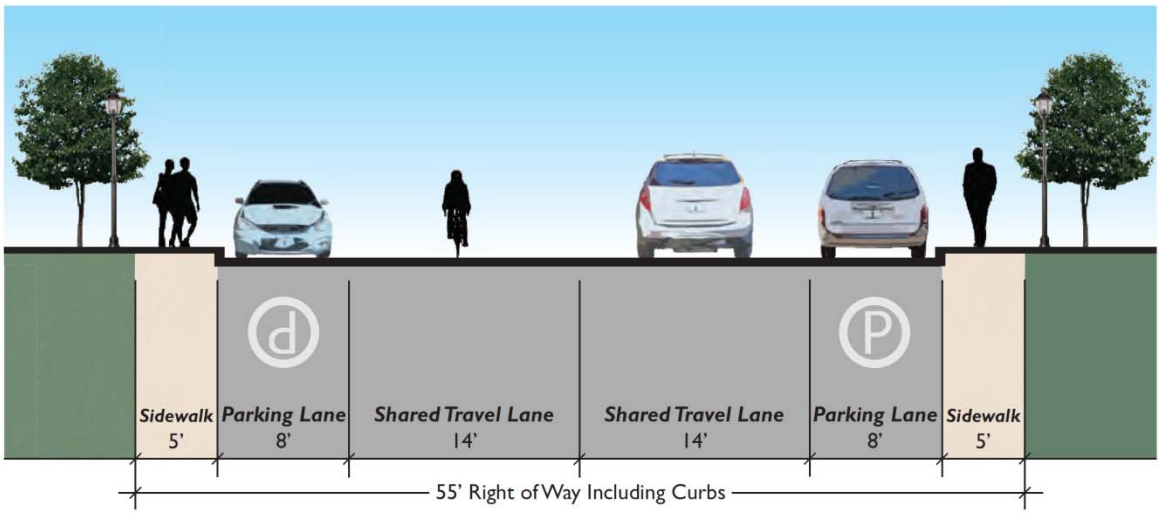


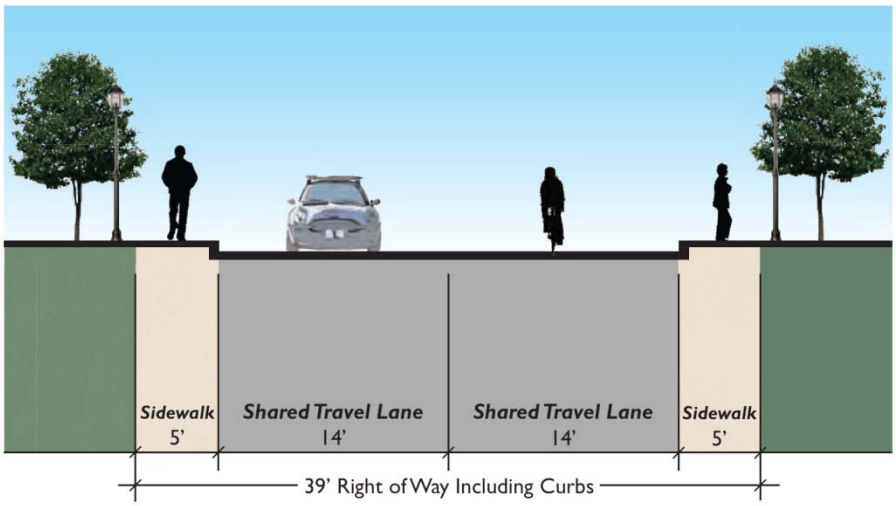
Figure 16.14.050C

Local Road and Main Street Standards

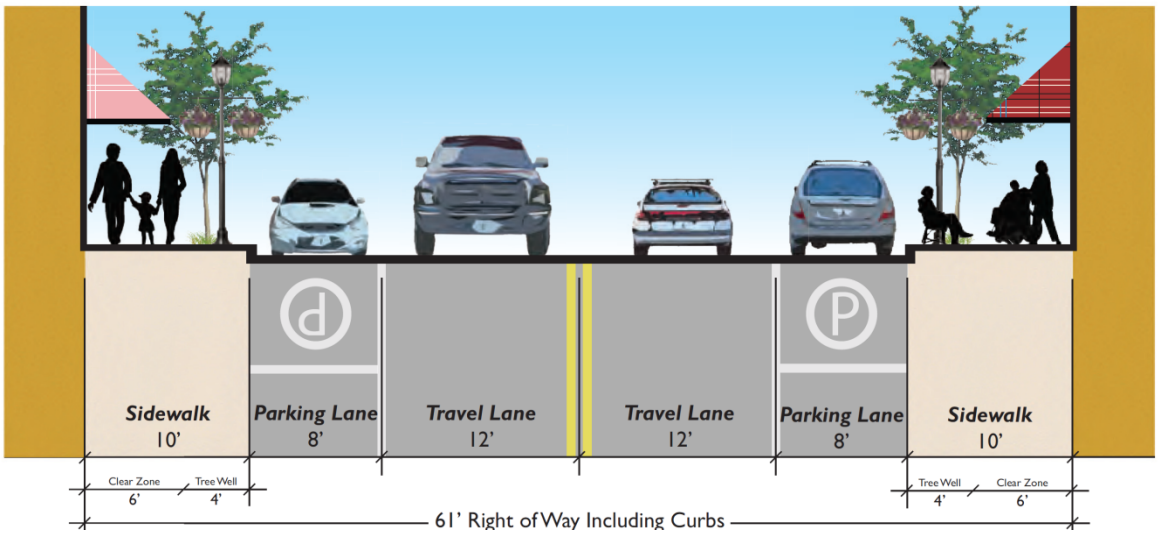
PREFERRED **LOCAL** ROAD



MINIMUM **LOCAL** ROAD



DOWNTOWN **MAIN STREET**



Section 16.14.060, Grades and Curves.

Grades shall not exceed 6% on arterials, 10% on collector streets, or 12% on any other streets. Centerline radii of curves shall not be less than 300 feet on major arterials, 200 feet on collectors, and continuing residential streets, and 100 feet on other streets and alleys and shall be rounded to an even 10 feet. Where existing conditions, particularly the topography, make it otherwise impracticable to provide buildable sites, the Planning Commission may accept steeper grades and sharper curves.

Chapter 16.16 – Planned Development Procedures

Action: Amend Title 16, Subdivisions to add a reference to local street design standards. Proposed language is underlined.

Section 16.16.090, Criteria for Preliminary Evaluation of Planned Development

A. The granting of preliminary approval is a statement to the applicant to proceed with the development under the conditions set forth by the planning commission. Therefore, the planning commission shall apply the following criteria to a proposal for a planned development:

1. All required information has been submitted;

2. Every aspect of the planned development conforms to all applicable ordinance standards;

3. The proposal complies with the city comprehensive land use plan;

4. All streets, sidewalks and ways meet the standards and specifications ~~set by the city~~ pursuant to Chapter 16.14 of this Code;

5. Each unit can be served by city sewer and water and the city has the capacity to provide those services;

6. Identified natural hazards have been addressed and provisions made for insuring that the development will proceed without aggravating those hazards;

7. Provisions of city ordinances concerning flood control and prevention have been and will be complied with;

8. Provisions have been made for safe and efficient access to the development and safe and efficient circulation of motor vehicles, bicycles and pedestrian traffic;

9. Adequate off-street parking has been provided.

Appendix F
Draft Objectives, Code, and Plan Amendments

Toledo TSP: Suggested Comprehensive Land Use Plan and Development Code Amendments

To ensure compliance with the Transportation Planning Rule[1], this memorandum provides 1) a list of suggested amendments to the City of Toledo Municipal Code (TMC) to be considered for adoption after the TSP is approved, and 2)a summary of the proposed revisions to the Comprehensive Plan that will be adopted upon approval of the TSP. The findings of compliance with the Transportation Planning Rule are presented in table-format and are included in this memorandum as Attachments A and B.

Please note that suggested code revisions to implement the street system standards is recommended in Appendix E, also referred to as Technical Memo #9, which makes changes to TMC 16.04.040, TMC 16.04.050, TMC 16.16.090, and adds a new section (TMC 16.14).

The proposed amendments are outlined in Tables 1 and 2, with references to the TPR requirements that they address. Following the table, corresponding text is presented in adoption-ready format; the draft amendments are numbered consistent within the structure of the Toledo Municipal Code and Comprehensive Plan. New language that is proposed to be added is underlined and proposed deletions are struck through. In some cases, adopting proposed new text will require re-numbering or re-lettering of subsequent TDC subsections.

Table 1: Summary of Suggested Municipal Code Amendments for future consideration and Corresponding TPR Requirements

	Proposed Development Code Amendments	TPR Requirements
1.	TMC 16.04.050(A) Add references requiring conformity to the transportation system plan for all partitions and subdivisions, as well as traffic facilities.	OAR 660-12-0045(3)(b)
2.	TMC 16.04.050(E) Remove language on public access ways that will be replaced by new subsection 16.12.180 to comply with TPR requirements.	OAR 660-12-0045(3)(b)
3.	TMC 17.04.020 Define “transportation facilities and improvements” in TMC 17.04.020 (Definitions)	OAR 660-12-0045(1)(b)
4.	TMC 17.08.020 Explicitly identify transportation facilities as an allowed use in the Single Family Residential Zone (R-S), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
5.	TMC 17.12.020 Explicitly identify transportation facilities as an allowed use in the General Residential Zone (R-G), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
6.	TMC 17.16.020 Explicitly identify transportation facilities as an allowed use in the Commercial Zone (C), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
7.	TMC 17.20.020 Explicitly identify transportation facilities as an allowed use in the Light Industrial Zone (L-I), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)

[1] Oregon Administrative Rule (OAR) 660-012-0045.

	Proposed Development Code Amendments	TPR Requirements
8.	TMC 17.24.020 Explicitly identify transportation facilities as an allowed use in the Industrial Zone (I), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
9.	TMC 17.28.020 Explicitly identify transportation facilities as an allowed use in the Natural Resource Zone (N-R), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
10.	TMC 17.32.020 Explicitly identify transportation facilities as an allowed use in the Water-Dependent Zone (W-D), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
11.	TMC 17.36.020 Explicitly identify transportation facilities as an allowed use in the Public Lands Zone (P-L), in order to streamline the permitting process.	OAR 660-12-0045(1)(b)
12.	TMC 17.44.070 (new subsection) Add minimum bicycle parking requirements by use to comply with TPR requirements to accommodate bicycle travel and help reduce dependence on the automobile.	OAR 660-12-0045(3)(a)
13.	TMC 17.44.080 (new subsection) Establish exceptions to the minimum number of off-street parking that can be made if sufficient bicycle parking is provided.	OAR 660-12-0045(3)(a)
14.	TMC 17.48.030 – TMC 17.48.055 Modifies the existing vehicle access and circulation section to include access standards.	OAR 660-12-0045(2)(a)

Table 2: Summary of Proposed Comprehensive Plan Amendments

	Proposed Development Code Amendments
1.	Purpose Add language referring to the adoption of the TSP in 2013 to serve as the Transportation Element of the Comprehensive Plan
2.	Article 12: Transportation Add multimodal objectives that were developed for the TSP.
3.	Article 14: Urbanization and Livability Add reference to the TSP as a document to guide future development in Toledo.

The TPR (OAR 660-012) implements Oregon's Statewide Planning Goal 12 (Transportation) and promotes the development of safe, convenient, and economic transportation systems that reduce reliance on automobile travel. TPR Section 660-012-0045(1) requires that "each local government shall amend its land use regulations to implement the TSP."

Recommended changes are based on a review of the City of Toledo Municipal Code and Comprehensive Plan for consistency with the TPR.

Suggested Code Amendments

The discussion of suggested code revisions changes is organized by (1) the applicable section(s) of the TPR that prompts a change in the Municipal Code, (2) a brief description of the recommended change (in *italics*), and (3) the recommended additions, deletions, or revisions to the Municipal Code (in underline and ~~strikethrough~~ format).

Title 16 Subdivisions

OAR 660-12-0045(3)(b)
Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below.

On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and access ways. Pedestrian circulation through parking lots should generally be provided in the form of access ways.

Proposed Changes

The following changes to the Toledo Municipal Code encourage bicycle and pedestrian travel and ensure that new development allows for reasonably direct routes with adequate separation from vehicular traffic.

Chapter 16.04
GENERAL PROVISIONS

Section 16.04.050 General Requirements and Minimum Standards of Design and Development
The following are the minimum requirements and standards to which partitions and subdivisions must conform before approval:

A. Conformity to the Comprehensive Plan and Transportation System Plan. All partitions and subdivisions shall conform ~~with~~ to all adopted portions of the comprehensive plan, transportation system plan, and all applicable ordinances and design standards of the city. Traffic facilities (including streets, pedestrian paths and bicycle paths), community and neighborhood facilities and recreational areas should be placed in approximately the same locations designated by the comprehensive plan and transportation system plan maps.

~~E. Public Access Ways. Public access ways may be required from the applicant as part of the land division approval to connect to cul-de-sacs, to pass through oddly shaped or unusually long blocks, to provide for networks of public paths according to adopted plans or to provide access to schools, parks, or other public areas, or to provide secondary public safety vehicular access, of such design and location as is reasonably necessary to facilitate public use and provided the following criteria is met:~~

~~1. Public access ways may be required of the applicant by the planning commission provided that the need for the public access way is a result of the proposed development and that the public access way required is roughly proportional to the impact of the proposed land division.~~

~~2. Where public access ways have been identified as necessary for public convenience and safety by the adopted comprehensive plan or by other adopted lands or policies of the city, the planning commission can require the applicant to dedicate the public access way provided the city council has authorized the purchase of the public access way.~~

Title 17 Zoning

OAR 660-12-0045(1)(b)
Each local government shall amend its land use regulations to implement the TSP.

To the extent, if any, that a transportation facility, service, or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.

Proposed Changes

The proposed changes to the Toledo Zoning Ordinance sections below ensure that the Toledo TSP and the City of Toledo comply with TPR requirement 660-12-0045(1)(b). These changes permit transportation facilities and improvements outright, thus streamlining the permitting process.

CHAPTER 17.04
GENERAL PROVISIONS

Section 17.04.020 Definitions
Transportation Facilities: A physical facility used to move people and goods from one place to another (i.e., streets, sidewalks, pathways, bike lanes, transit stations, bus stops, etc.).

Transportation Improvements: Transportation facility improvements include, but are not limited to:

- Normal operation, maintenance, repair, and preservation activities associated with existing transportation facilities.
- Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way
- Projects specifically identified in the City's adopted Transportation System Plan
- Landscaping as part of a transportation facility.
- Emergency measures necessary for the safety and protection of property or the public.
- Construction of a street or road as part of an approved subdivision or partition consistent with the City's adopted Transportation System Plan.
- Construction of a street or road as part of an approved subdivision or land partition approved in accordance with the applicable land division ordinance.

CHAPTER 17.08
SINGLE FAMILY RESIDENTIAL ZONE (R-S)

Section 17.08.020 Uses Permitted Outright. In the R-S Zone, the following uses and their accessory uses are permitted outright. Special standards for certain uses, marked with an asterisk (*), are found in Section 17.08.090.

A. Single-family dwellings* and their accessory uses.
B. Home occupations which comply with Chapter 17.46
C. Manufactured dwellings.*
D. Accessory use structures.*
E. Accessory dwelling units.*
F. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

CHAPTER 17.12
GENERAL RESIDENTIAL ZONE (R-G)

Section 17.12.020 Uses Permitted Outright. In the R-G Zone, the following uses and their accessory uses are permitted outright. Special standards for certain uses, marked with an asterisk (*), are found in Section 17.12.040.

A. Single-family dwellings and their accessory uses
B. Multi-family dwelling units.
C. Manufactured dwellings.*
D. Accessory dwelling units.*
E. Home occupations which comply with Chapter 17.46
F. Accessory Use Structures
G. Registered and licensed residential care facility and residential care homes
H. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.16
COMMERCIAL ZONE (C)

Section 17.16.020 Uses Permitted Outright. In the C Zone, the following uses and their accessory uses are permitted outright. Special standards for certain uses, marked with an asterisk (*), are found in Section 17.16.050.

A. Retail trade or commercial services, except drive-in uses.
B. Entertainment (e.g., theaters, clubs, amusement uses).
C. Hotel, motels, bed and breakfast facility, hostel, or residency hotels.
D. Personal and professional services (e.g., child care center, catering/food services, restaurants, taverns, laundromats and dry cleaners, barber shops and salons, banks and financial institutions, or similar uses).
E. Medical and dental offices, clinics or laboratories.

F. Office uses (i.e., those not otherwise listed).
G. Public and institutional uses such as religious uses, clubs, lodges, government offices and facilities, public safety services, libraries, museums, community centers, public parking lots, parks, schools, or other similar uses.
H. Custom manufacturing of goods for retail and/or wholesale sale on the premises such as small-scale crafts, electronic equipment, bakery, furniture, art, sculpture, pottery, or other similar types of goods.
I. Truck and car repair and service - minor.*
J. Automobile service stations.
K. One accessory dwelling unit in conjunction with a commercial use and that meets applicable code requirements.
L. Temporary vendors/seasonal commercial uses not to exceed three months.
M. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.20
LIGHT INDUSTRIAL ZONE (L-I)

Section 17.20.020 Uses Permitted Outright. In the L-I Zone, the following uses and their accessory uses are permitted ~~*The following light industrial uses and their accessory uses are permitted*~~, subject to applicable standards, provided that the uses occur in a building or buildings that together do not exceed 40,000 square feet of floor area. Special standards for certain uses, marked with an asterisk (*), are found in Section 17.20.040.

A. Assembly plants.
B. Limited manufacturing.
C. Contractor's warehouse and shop.
D. Crane business and related operations.
E. Storage in conjunction with a permitted use.
F. Machine shop and fabrication.
G. Mini-storage.
H. Parking in conjunction with uses permitted in the L-I zone.
I. Governmental and utility uses such as a pumping station, utility service yard, utility substation, public works shop, public safety services, or similar facilities.
J. Separate office building and/or retail sales in conjunction with a permitted use. *
K. Wholesale trade.
L. Auto body shop. *
M. Truck and car repair and service-minor. *
N. Boat building and/or boat repair and related launch facility.
O. Automobile service stations.
P. One security dwelling as a separate structure or one security dwelling as part of a building for light-industrial use that complies with applicable codes for mixed use occupation. A security dwelling may only be allowed as an accessory use in conjunction with uses permitted in the L-I zone. *
Q. Temporary street vendors/seasonal commercial uses not to exceed six months.
R. Uses permitted outright in the commercial zone, but only on parcels with frontage on Business Highway 20.
S. Warehousing.

T. Railroad line and associated uses.
U. Commercial fishing gear maintenance, repair and storage.
V. Food production and/or beverage production.
W. Research and development.
X. Low intensity recreation.
Y. Timber-based operations, excluding milling and/or processing of wood and paper products.
Z. Commercial marina or moorage, and or charter boat operation.
AA. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.24
INDUSTRIAL ZONE (I)

Section 17.24.020 Uses Permitted Outright. In the I Zone, the following uses and their accessory uses are permitted outright and are found in Section 17.20.040.Special standards for certain uses, marked with an asterisk (*), are found in Section 17.24.040.

A. Assembly plants.
B. Limited manufacturing.
C. Processing and manufacturing operations, excluding the following:
    a. Asphalt mixing and batching.
    b. Explosives manufacturing.
    c. Petroleum or petroleum products refining.
    d. Fertilizer manufacture.
    e. Gas manufacture.
    f. Slaughterhouse or rendering facility.
D. Contractor's warehouse and shop.
E. Crane business and related operations.
F. Storage in conjunction with a permitted use.
G. Machine shop and fabrication.
H. Mini-storage.
I. Parking in conjunction with uses permitted in the I zone.
J. Governmental and utility uses such as a pumping station, utility service yard, utility substation, public works shop, public safety services, or similar facilities.
K. Separate office building and/or retail sales in conjunction with a permitted use. *
L. Wholesale trade.
M. Auto body shop. *
N. Truck and car repair and service minor. *
O. Truck and car repair service major.
P. Automobile service stations.
Q. One security dwelling as a separate structure or one security dwelling as part of a building for industrial use that complies with applicable codes for mixed use occupation. A security dwelling may only be allowed as an accessory use in conjunction with uses permitted in the I zone. *
R. Temporary street vendors/seasonal commercial uses not to exceed six months.
S. Warehousing.
T. Railroad line and associated uses.
U. Commercial fishing gear maintenance, repair and storage.

V. Food production and/or beverage production.
W. Research and development.
X. Low intensity recreation.
Y. Timber-based operations.
Z. Shipping facilities.
AA. Waste transfer, recycling facility, or scrap metal facility.
BB. Bulk storage of flammable liquids and gases.
CC. Boat building and/or boat repair and related launch facility.
DD. Commercial marina or moorage, and or charter boat operation.
EE. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.28
NATURAL RESOURCE ZONE (N-R)

Section 17.28.020 Uses Permitted Outright. In an N-R Zone, the following uses and their accessory uses are permitted outright:

A. Planting, cultivation and harvesting of timber or agricultural crops.
B. Pasture.
C. One residence per tax lot existing on the effective date of this ordinance, provided the residence is occupied in conjunction with an agricultural use.
D. Accessory out-buildings.
E. Yaquina Estuary Management Unit #33 shall be governed by the permitted uses established through the Yaquina Bay Task Force.
F. Public park facilities.
G. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.32
WATER-DEPENDENT ZONE (W-D)

Section 17.32.020 Uses Permitted Outright. In a W-D Zone, the following uses and their accessory uses are permitted outright:

A. Marine terminal or transfer facility for fish, timber, or other water-borne commerce.
B. Industrial processing plant which requires access to water body during processing operation.
C. Log storage ~~which~~ that requires access to water.
D. Boat building or boat repair and launch facility.
E. Seafood processing.
F. Marine fuel sales.
G. Charter boat operation.
H. Marine ways and boat ramp.
I. Commercial marina or moorage.
J. One security dwelling as part of a building for water-dependent use that complies with applicable codes for mixed use occupation.
K. Any shoreland use or activity necessary in relation to a use allowed under Section 17.32.020.

L. Any other use ~~which~~ that conforms with the definition of water-dependent development in Section 17.04.020.
M. Low intensity recreation providing waterfront access.
N. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

Chapter 17.36
PUBLIC LANDS ZONE (P-L)

Section 17.36.020 Uses Permitted Outright. In a P-L Zone, the following uses and their accessory uses are permitted outright:

A. Uses existing at the time of passage of this ordinance and the expansion of those uses are permitted outright.
B. Transportation facilities (operation, maintenance, preservation, and construction in accordance with the City's Transportation System Plan).

OAR 660-12-0045(3)(a)
Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below.

Bicycle parking facilities as part of a new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park-and-ride lots.

Proposed Changes

The following changes to the Toledo Municipal code accommodate bicycle travel, help reduce dependence on the automobile, and help the City comply with TPR requirements

Chapter 17.44
OFF-STREET PARKING AND LOADING

Section 17.44.070 Bicycle Parking Requirements
A. Minimum Required Bicycle Parking Spaces. Uses shall provide bicycle parking spaces, as designated in the table below.

Table 17.44.070
Minimum Required Bicycle Parking Spaces

Use Categories	Required Spaces
General Residential Uses	
Apartment dwellings, condominium or time share project (Multifamily – more than 2-family dwellings only)	1 per 6 units
Rooming or boarding house or fraternity	2, or 1 per 20 bedrooms
Commercial Uses	
Church	2, or 1 per 4,000 sq. ft. of net building area
Public or equivalent private or parochial schools	1 per every 4 classrooms, or per CU review
All other uses	2, or 1 per 12,000 sq. ft. of floor area, or per CU review
Natural Resource Uses	
Public Parks (active recreation areas only)	2
Industrial or Light Industrial Uses	
All uses	2, or 1 per 40,000 sq. ft. of floor area
Other uses	Determined through Land Use Review, Site Design Review, or CU Review, as applicable

B. Exemptions. This Section does not apply to single-family and two-family housing (attached, detached, or manufactured housing), home occupations, agriculture, and livestock uses.

C. Location and Design. Bicycle parking should be no farther from the main building entrance than the distance to the closest vehicle parking space. When allowed within a public right-of-way, bicycle parking shall be coordinated with the design of street furniture, as applicable.

D. Lighting. For security, bicycle parking shall be lit at least as well as vehicle parking.

E. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards.

Section 17.44.080 Bicycle parking credit.

A. Bicycle Parking Credit. The amount of required vehicle parking may be reduced by up to 25 percent with each additional 2 bicycle parking spaces.

OAR 660-12-0045(2)(e)

Local governments shall adopt land use or subdivision regulations consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified function.

A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities.

Access permit requirements

Chapter 17.48 Access and Clear Vision Requirements.

17.48.030 Access permit required.

Access to a public street requires an Access Permit (a Type I permit) in accordance with the following procedures:

A. Permits for access to City streets shall be subject to review and approval by the City Manager or their designee based on the standards contained in this Chapter, the Toledo Public Improvements Requirements and Design Standards, the Toledo Transportation System Plan, and/or the Uniform Fire Code as applicable. An access permit may be in the form of a letter to the applicant, attached to a land use decision notice, or included as part of the development review/building permit approval.
B. Permits for access to State highways shall be subject to review and approval by the Oregon Department of Transportation (ODOT), except when ODOT has delegated this responsibility to the City or Lincoln County. In that case, the City or County shall determine whether access is granted based on its adopted standards.
C. Permits for access to County roads/highways shall be subject to review and approval by Lincoln County, except where the County has delegated this responsibility to the City, in which case the City shall determine whether access is granted based on adopted City standards.

17.48.040 Conditions of approval.

The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording reciprocal access easements (i.e., for shared driveways), installation of traffic control devices or traffic safety devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. The City is authorized to require greater requirements for access in accordance with the adopted city standards for permits issued by any jurisdiction within the city limits.

17.48.050 Access options.

When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods. These methods are options to the developer unless one method has been specifically required in conjunction with a land use application.

A. Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not required.
B. Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., shared driveway). A public access easement covering the driveway shall be recorded to assure access to the closest public street for all users of the private street/drive.
C. Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access.

17.48.055 Access Spacing Standards.

Access spacing is divided into two categories: Public Street Intersections and Private Access Driveways. Tables 17.48.055a and 17.48.055b include standards for both categories.

Table 17.48.055a
Public Street Intersection Spacing Standards

Functional Classification	**Public Intersection Spacing**
Arterial	100 feet
Collector	100 feet
Local Street (includes Main Street and streets designated as Commercial Streets)	50 feet

Table 17.48.055b
Private Access Driveway Spacing Standards

Functional Classification	**Driveway Spacing**
Arterial	40 feet
Collector	20 feet
Local Street (includes Main Street and streets designated as Commercial Streets)	10 feet

Comprehensive Plan Amendments

The text below includes proposed amendments to the Toledo Comprehensive Plan, adopted in 2000. The amendments include adding references to the TSP and its accompanying policies for roadway, freight, bicycle/pedestrian, rail, transit, pipeline, airport, and water/port modes. The policies in Article 12, Transportation, have been reordered into subsections that cover the overall system and each of these modes, impacts on land use and development, and operation and maintenance. All existing transportation policies in the Comprehensive Plan have been retained except for those policies that instruct the City to adopt a TSP.

Purpose

The Toledo Comprehensive Plan provides a framework for making better decisions regarding the use of land and community resources. The plan is a means of controlling the urban environment, conserving Toledo's existing values and guiding growth in the desired directions. The plan is a policy statement based upon the existing assets, problems and needs within the community. It predicts future conditions and sets forth City policies in an effort to guide the development of Toledo in a positive and productive manner. The plan is designed to help Toledo to know its past and present and to develop a future which reflects the community's values and goals.

The plan is a guideline for both short and long term development and is written to assure a comprehensive view of how individual projects can contribute to achievement of the community’s goals. Change is an inherent part of the community. The purpose of the Comprehensive Plan is to help the community adjust to changing circumstances in a manner which reflects the community's desires. It is a tool designed to:

- be comprehensive
- be long range

- be general
- focus on physical development
- be related to the social and economic forces that the plan proposes to accommodate
- to be adopted and used by the City of Toledo to guide land development and use.

The plan is intended for use by local officials, persons with development interests, neighborhood and community groups, state and federal agencies, special districts and citizens of all interests. It provides information about the community and how future land use development should be balanced to meet the overall needs of the community. The Plan is comprehensive and should not be viewed in parts without consideration of the interrelationships with other aspects of the Plan.

The Toledo Comprehensive Plan was also written in compliance with the Oregon Planning Act and addresses the Oregon Statewide Planning Goals. The framework of the plan is based upon the Oregon goals with adjustments to assure a comprehensive review of Toledo's specific characteristics and needs. This comprehensive policy plan is the central, but not only, document for directing Toledo's future. Other planning documents are equally important. Many of these have been used as background reports or inventory documents providing specific and detailed information on each of the statewide land use planning goals applicable to Toledo. Others include the specific facts regarding Toledo from which the Comprehensive Plan statements, policies and objectives are derived. Summaries and references to the relevant background materials are found in the 2020 Vision for Toledo, Oregon – The 2000 Toledo Comprehensive Land Use Plan Inventory.

The City of Toledo completed a Transportation System Plan (TSP) in September 2013 for areas within the Toledo urban growth boundary. The TSP serves as the Transportation element of the Comprehensive Plan. The TSP process considered future growth prospects for the community, evaluated alternatives for access and circulation, and included specific recommendations for a balanced transportation system and system improvements.

Planning is a continuous, not a static, process. Over time, the Comprehensive Plan must incorporate new values, concerns and opportunities. Periodically (approximately every 5 to 7 years) the plan should be revised to reflect the needs, goals and desires of Toledo's residents.

Article 12 Transportation

Goals

1. Provide a safe and efficient, multi-modal transportation system which provides linkages in a manner that enhances Toledo's neighborhoods, environment, economy, and social and scenic values.
2. Minimize the adverse social, economic, energy, and environmental impact costs of constructing, maintaining, and using transportation facilities and services in cooperation with county, state, and other public agencies and the private sector.
3. Encourage safe, efficient, convenient, and economic modes of travel that reduce reliance upon one form of transportation, minimize energy consumption and air quality impacts.
4. Develop a safe and efficient street system that will handle the projected needs of the community and provide connections to the region.
5. Provide safe, accessible, and convenient pedestrian and bicycle facilities while taking into account Toledo’s topography, current street use and widths, and current funding levels for major improvements.

6. The City of Toledo will seek for all its citizens the maximum level of access to all social, work, and welfare resources.
7. The City of Toledo will seek for all its citizens a customer-based regionally coordinated public transit system that is efficient, effective, and founded on present and future needs.
8. Minimize the negative impact of the rail system on other aspects of the transportation system, adjacent land uses, and quality of life in Toledo.
9. Encourage land use patterns that maximize rail service or preserve the future opportunity to use rail transportation.
10. Support current rail service in Toledo.

Objectives

Multimodal System Objectives

1. Provide a multi-modal transportation system which provides services for motorized vehicles, bicycles, pedestrians, electronic data transmission, mass transit, and air, rail and water transport (including shipping).*
2. Encourage options other than the personal automobile for transportation services through comprehensive land use planning policies that would allow reliance upon the automobile and vehicle trips to be reduced.
    a. Improve and support transit services.
    b. Improve and support ride-sharing opportunities.
    c. Support programs to reduce the single-occupancy trips for commuters to Newport and other Lincoln County and Benton County areas.
    d. Encourage the provision of sidewalks, pedestrian paths, and bicycle paths/lanes.
3. Support the role of Toledo as a regional center for air, water, rail, and roadway transport connections. Within Lincoln County, Toledo has the only sites which provide rail, air, water, and roadway connections for moving goods.*
4. Continue to coordinate transportation planning and services with Lincoln County, Oregon Department of Transportation, private industry, and others determining transportation policies, programs, and projects.*
5. Maintain a Transportation System Plan which supports and implements these transportation goals and objectives, the Oregon Transportation Goal 12, and the requirements of the Oregon Transportation Rule.

Public Works Objectives

6. Build and maintain roadways and other transportation facilities in a manner that is the most cost effective for the life of the road so as to reduce public maintenance costs.*
7. Provide transportation facilities designed to maintain safe conditions over time and in adverse weather conditions.*
8. Develop a coordinated approach to the operation, development, and maintenance of transportation facilities by linking the construction and maintenance of roadways to the construction and maintenance of other public services including wastewater, water, storm drainage, public utilities,

and public safety vehicle access and to the increased service level demands of new or expanded land within the City and Urban Growth Boundary.*

9. Ensure continued, economically viable, and competitive access to electronic data transmission. Maintain the Toledo Public Utilities Commission to provide input to the City Council regarding franchises for the operation of public utilities within Toledo.*

Development/Land Use Objectives

10. Assure that minimum, adopted national standards for public safety access are maintained for each property and that access lanes are provided as fire breaks and evacuation routes within the community.*
11. Require new development to extend/improve transportation facilities to complete transportation system linkages and to mitigate impacts of additional traffic from new development on the existing transportation system and neighborhoods.*
12. Maintain standards and procedures to ensure the provision of the desired transportation system as each property is developed/redeveloped for more intense uses by coordinating development permits with the extension or improvement of streets and other transportation facilities.
13. Develop and maintain a Transportation System Plan and clear and objective local standards for transportation facilities construction and maintenance. Incorporate the use of the TSP and local standards into application reviews and permits for all new developments and construction projects.
14. Minimize disturbances of the natural environment or use of natural resources when locating, constructing, maintaining, and using transportation facilities and services. Encourage land use patterns which minimize environmental impacts from transporting people, goods, and services. *

Street System Objectives

15. Provide a system of roadways that maintain vehicle capacity and public safety as the community grows.*
16. Provide linkages within the community with a circulation system that is safe and convenient to all areas within the community and that links the community to Highway 20, rail, air, and water shipping facilities.*
17. Maintain the character of Toledo's neighborhoods by encouraging local streets that ensure safe and efficient traffic flows but which are designed to encourage low speeds and minimize traffic impacts within the residential neighborhoods.*
18. Maintain efficient and safe truck routes to support the transportation of people, goods, and services between major employment centers and markets.*
19. Support and work with the Cascades West Area Commission on Transportation (CWACT) to identify funding for Western Junction projects that are in line with Toledo's vision for the intersection.
20. Work with partners to add wayfinding signs to direct visitors to downtown Toledo, the Arts District, and other Toledo attractions for all modes including vehicles, bicyclists, and pedestrians.
21. Continue to support transportation access including freight to industrial sites in the City - including the Siletz Kiln site - to support economic development.
22. Maintain flexibility with street standards for all modes given the existing topographical and right-of-way constraints, provide options to minimum standards that provide safe, feasible streets.

23. The designated Functional Classification of streets in the Toledo TSP will be used to prioritize street maintenance and guide the location and design of new streets.
24. Protect the function of existing and planned roadways by application of appropriate setbacks, land use regulations, exactions, and voluntary dedication.
25. All development proposals, plan amendments, or zone changes will conform with the Toledo Transportation System Plan.
26. Consider impacts on existing or planned transportation facilities in all land use decisions.
27. Coordinate with the Oregon Department of Transportation and Lincoln County Public Works to implement the improvements listed in the Toledo Transportation System Plan.
28. Continue to update capital plans to identify, prioritize, and construct transportation projects giving careful consideration to a constrained budget environment, topographical challenges, and diminishing sources of outside funding.
29. Land uses authorized under Comprehensive Land Use Plan Map and Zoning Map amendments must be consistent with the identified function, capacity, and level of services of transportation facilities.

Bicycle and Pedestrian System Objectives

30. Develop a pedestrian and bikeway system which will provide routes to allow pedestrians and bicyclists to travel to and from residential areas to schools, parks, places of employment, and commercial areas.
    a. Action: If there are stakeholders in this area, then every effort should be made to involve these citizens in selecting prioritized routes to be considered for feasibility, safety, and cost versus use practicality.
    b. Action: The same stakeholders should also be encouraged to take an active role in determining sources of revenue for funding these improvements above the funds currently being dedicated for bike lanes.
    c. Action: Coordinate with Lincoln County and private land owners in the development of bikeways.
31. All new arterial and collector streets and major improvements[2] to arterial and collector streets shall include the pedestrian and bikeway facility specified in the street design standard where feasible.
32. When traffic volume on existing collector streets (speeds <25mph) exceeds 3,000 ADT consider changing the bikeway type from shared roadway to bike lanes.
33. Low curb crosswalks shall be used at all intersections, consistent with ADA guidelines, to facilitate use by all pedestrians.
34. Where feasible, the City shall allow no physical obstruction of sidewalks such as utility poles, sign posts, or guy wires (consistent with ADA guidelines).
35. Provide safe, convenient, and attractive walking environments through the City with a special emphasis in the commercial area.
36. Visibility and unobstructed views shall be promoted for all areas of high pedestrian use.

[2] "Major improvement" refers to a construction project where the pavement or asphalt of the street is removed down to the base rock foundation and rebuilt.

37. Bicycle traffic on sidewalks shall be prohibited.
38. The City will work with interested landowners to explore local funding options for sidewalk improvements such as Local Improvement Districts.
39. The City supports the development of a well-developed sidewalk system with street trees to link the community to downtown, local parks, and the waterfront.
40. Support efforts by local schools and emergency service organizations to implement a bicycle, pedestrian, and driver safety education program to encourage safe walking, cycling, and driving behavior.
41. Coordinate with rail operators to address rough pavement at railroad crossings to create smooth crossings for bicyclists and pedestrians. (This objective is in conjunction with Rail Objectives 61 and 63 to address railroad crossings).
42. Identify ways to improve wayfinding resources to guide pedestrians and bicyclists to explore Toledo and provides directions to local attractions in downtown and near the waterfront.
43. Work with regional partners to determine the feasibility of building an intercity multi-use trail.
44. Encourage community partners to explore the possibility of instituting a volksmarch[3] route in Toledo for programming events.

Port and Water System Objectives

45. Work with partners to determine the lifespan of Butler Bridge and explore the rebuilding or altering the bridge to accommodate taller barges and boats.
46. Support efforts to develop a pier for barge access at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel.
47. Explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown.
48. Work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site for Depot Slough.
49. Continue to make the proposed intermodal hub at Tokyo Slough (linking water, rail, and freight truck transportation) a high priority.

Transit Objectives

50. The City will support and promote regional planning for public transportation services that use innovative technology to maximize efficiency of operation, planning, and administration of public transportation.
51. The City encourages the use of car pools and park-and-ride lots in the area and other strategies to reduce the number of single occupant vehicle trips.
52. The City shall support existing public transportation services by improving facilities including adding bus shelters at all stops and promoting public awareness of the services.
53. The City will coordinate with other jurisdictions when park-and-ride facilities are needed.

[3] Volksmarching is a form of personal, non-competitive, fitness walking that originated in Germany and has a popular following in the United States.

54. Maintain long-standing partnership with Lincoln County Transit and the North by Northwest Connector to support new investments in transit service and infrastructure, and identify potential new funding sources to implement these improvements.
55. Encourage the Toledo Chamber of Commerce or other organization to explore a citywide transit shuttle or circulator that could meet the demand for improved local service for Toledo residents and employees.
56. Encourage local and regional partners to explore long-term feasibility of water taxi or ferry service to Newport.

Air Objective

57. If the airport closes, work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City.

Pipeline Objective

58. Continue to support the Georgia-Pacific plant's effluent pipeline and work with partners to maintain applicable environmental permitting.

Rail Objectives

59. Retain existing railroad crossings in Toledo and strive for safety measures that offer the highest level of protection.
60. Work with the railroad to minimize the visual and noise impacts of rail traffic.
61. Continue to work with the railroad to facilitate pedestrian facility installation at all pedestrian crossings.
62. Coordinate with regional organizations to emphasize the importance of the current rail system to the economy of Toledo and Lincoln County.
63. Coordinate regularly with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to work together to address the conditions of the crossings.
64. Develop evaluation criteria to prioritize public crossing investments and generate a list of improvements in order of greatest priority.
65. Continue to pursue the proposed intermodal hub at Tokyo Slough with the Port of Toledo to add potential freight rail customers.
66. Work with ODOT Rail and PNWR to develop policies to reduce idling train engines near Downtown businesses.
67. Support efforts that will attract new businesses and support existing businesses and industries that will utilize freight and potential passenger rail service between Toledo and the I-5 corridor

Article 14 Urbanization and Livability

Goals

3. Ensure that all new developments are reviewed expeditiously and thoroughly and result in compliance with the Comprehensive Plan goals and policies, the Transportation System Plan requirements, and Toledo's Municipal Code and standards.

Objectives

1. Work with Lincoln County to ensure that as undeveloped portions of the Urban Growth Boundary are in transition from rural to urban uses, development in these areas occurs in a manner consistent with the Toledo Comprehensive Plan, Transportation System Plan, and standards for redevelopment.

Attachment A: Findings of TPR Compliance in Toledo TSP

TPR Requirements	Toledo TSP Compliance
660-012-0015 Preparation and Coordination of TSPs	
(3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division:	
(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP;	The Modal Plans in the TSP include facilities and services to meet identified transportation needs. Needs are identified in Appendix C, Transportation Deficiencies and Needs.
(5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.	The TSP Stakeholder Advisory Committee (SAC) included representatives from City of Toledo, ODOT, and Lincoln County. Portland and Western Railroad was invited to all SAC meetings.
(6) Mass transit, transportation, airport and port districts shall participate in the development of TSPs for those transportation facilities and services they provide. These districts shall prepare and adopt plans for transportation facilities and services they provide. Such plans shall be consistent with and adequate to carry out relevant portions of applicable regional and local TSPs. Cooperative agreements executed under ORS 197.185(2) shall include the requirement that mass transit, transportation, airport and port districts adopt a plan consistent with the requirements of this section.	The TSP SAC included representatives from Lincoln County Transit and the Port of Toledo who participated throughout the development of the TSP. The Toledo TSP is consistent with Lincoln County Transit and Port of Toledo future plans.
660-012-0020 Elements of TSPs	
(2) The TSP Shall include the following elements (a) A determination of transportation needs as provided in OAR 660-012-0030	Transportation needs are included in Appendix C, Transportation Deficiencies and Needs. The Toledo TSP also includes a summary of needs for each transportation element.

TPR Requirements	Toledo TSP Compliance
(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and other important non-collector street connections. Functional classifications of roads in regional and local TSP's shall be consistent with functional classifications of roads in state and regional TSPs and shall provide for continuity between adjacent jurisdictions. The standards for the layout of local streets shall provide for safe and convenient bike and pedestrian circulation necessary to carry out OAR 660-012-0045(3)(b). New connections to arterials and state highways shall be consistent with designated access management categories. The intent of this requirement is to provide guidance on the spacing of future extensions and connections along existing and future streets which are needed to provide reasonably direct routes for bicycle and pedestrian travel. The standards for the layout of local streets shall address: (A) Extensions of existing streets (B) Connections to existing or planned streets, including arterials and collectors; and (C) Connections to neighborhood destinations.	The Implementation element of the TSP includes a functional classification plan and roadway standards. Arterial and collector standards include space for sidewalks and bicycle lanes. The standards for the layout of local streets address extensions of existing streets, connections to existing or planned streets, or connections to neighborhood destinations planned within the 20-year TSP timeline.

TPR Requirements	Toledo TSP Compliance
(c) A public transportation plan which: (A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies; (B) Describes intercity bus and passenger rail service and identifies the location of terminals; (C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, major transit stops, and park-and-ride stations. Designation of stop or station locations may allow for minor adjustments in the location of stops to provide for efficient transit or traffic operation or to provide convenient pedestrian access to adjacent or nearby uses.	The transit modal plan includes existing local and regional public transportation services and identifies service deficiencies and recommended improvements. Existing conditions section describes existing transit routes, stops, frequency, and park-and-ride locations.
(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514;	The Bicycle and Pedestrian Plan includes a plan for bicycle and pedestrian route networks.
(e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations;	Appendix C, Transportation Deficiencies and Needs and the Rail, Water, and Pipeline modal plans include descriptions of existing and planned air, rail, port, water, and pipeline facilities. The Toledo TSP is consistent with Port of Toledo plans and does not conflict with future operations at Georgia-Pacific, Toledo State Airport, and Portland and Western Railroad.
(h) Policies and land use regulations for implementing the TSP as provided in OAR 660-012-0045;	The Implementation and Policy language section includes Policy and Code language to implement the TSP. Appendix F Code and Plan Amendments includes the full text of the implementing ordinances.
(i) For areas within an urban growth boundary containing a population greater than 2,500 persons, a transportation financing program as provided in OAR 660-012-0040.	Project tables in the Roadway and Pedestrian, Bicycle, and Multi-Use Path modal plans include priority ranking and cost estimates. The Implementation and Policy Language section summarizes the existing and potential future funding sources. Additional information is included in Appendix B, Transportation Funding.

TPR Requirements	Toledo TSP Compliance
(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition: (A) The transportation capacity analysis shall include information on: (i) The capacities of existing and committed facilities; (ii) The degree to which those capacities have been reached or surpassed on existing facilities; and (iii) The assumptions upon which these capacities are based. (B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency; (C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g., very good, good, fair, poor, very poor).	The roadway modal plan includes a summary of roadway capacity. Appendix C, Transportation Deficiencies and Needs, includes an in-depth analysis of existing conditions and project future capacity issues on the transportation network.
(3) (b) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and performance standards;	The TSP includes modal plans which describe the planned transportation facilities, services, and major improvements, including the type or functional classification of planned or improved facilities and services. Performance standards are located in the roadway section.
660-012-0025 Complying with the Goals in Preparing TSPs	
(1) Except as provided in section (3) of this rule, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode, and general location.	The City will adopt the TSP as part of the Toledo Comprehensive Land Use Plan.
(2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.	The Staff Findings during the adoption process include findings of compliance with applicable statewide planning goals. Comprehensive plan policies and land use regulations were developed and will be adopted in conjunction with the TSP.

TPR Requirements	Toledo TSP Compliance
660-012-0030 Determination of Transportation Needs	
(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including: (a) State, regional, and local transportation needs; (b) Needs of the transportation disadvantaged; (c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR 660-009 and Goal 9 (Economic Development).	Appendix C, Transportation Deficiencies and Needs, includes a determination of transportation needs in the planning area including state, regional, and local transportation needs. Additionally, the needs of transportation disadvantaged and goods movement to support industrial and commercial development are considered.
(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon: (a) Population and employment forecasts and distributions that are consistent with the acknowledged comprehensive plan, including those policies that implement Goal 14. Forecasts and distributions shall be for 20 years and, if desired, for longer periods; and (b) Measures adopted pursuant to OAR 660-012-0045 to encourage reduced reliance on the automobile.	Appendix C, Transportation Deficiencies and Needs, includes population and employment forecasts that are consistent with the Toledo Comprehensive Plan, with 2035 as the study year. The Toledo TSP includes bicycle, pedestrian, and multi-use path policies and projects that will help reduce reliance on the automobile.
660-012-0035 Evaluation and Selection of Transportation System Alternatives	
(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:	The TSP system and network of improvements includes considerations of impacts on identified transportation needs.
(a) Improvements to existing facilities or services;	Improvements to existing facilities and services were considered before new facilities and are high priorities in this TSP for all modal elements.
(b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs;	All new facilities were evaluated based on their ability to include all modes or combinations of travel modes to meet identified transportation needs.
(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.	Appendix C, Transportation Deficiencies and Needs, documents the “no-build” system alternative for Western Junction and other transportation deficiencies.

TPR Requirements	Toledo TSP Compliance
(3) The following standards shall be used to evaluate and select alternatives:	Appendix G, Public Involvement Process, includes documentation of the alternatives evaluation and selection process for the Western Junction. TSP goals and objectives developed in the project's first phase guided alternative selection.
(a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan;	Appendix C, Transportation Deficiencies and Needs, documents the anticipated land uses and the TSP projects include consideration of these land uses in determining an appropriate transportation system.
(b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan;	The TSP system and network of improvements includes consideration of environmental and ecological impacts, such as nearby wetlands, which informed facility type and alignment decisions.
(c) The transportation system shall minimize adverse economic, social, environmental and energy consequences;	The TSP system and network of improvements includes consideration of minimizing economic, social, environmental, and energy consequences.
(d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation; and	The modal plans include an evaluation of projects for ability to minimize conflicts and facilitate connections between modes of transportation.
(e) The transportation system shall avoid principal reliance on any one mode of transportation by increasing transportation choices to reduce principal reliance on the automobile.	The transit and bicycle, pedestrian, and multi-use trail modal plans increase transportation choices to reduce reliance on the automobile.
660-012-0040 Transportation Financing Program	
(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.	Funding for individual transportation projects in the TSP is included in the Modal Plans, and in the Implementation and Policy Language Section. Full documentation of the financing plan is included in Appendix B, Transportation Funding.
(2) A transportation financing program shall include the items listed in (a)-(d):	
(a) A list of planned transportation facilities and major improvements;	The modal elements in the TSP include planned transportation facilities and major improvements.
(b) A general estimate of the timing for planned transportation facilities and major improvements;	Tables in the modal element sections include estimated timing for planned facilities and major improvements.
(c) A determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP; and	Tables in the modal element sections include planning level cost estimates for facilities and major improvements. Full documentation of the cost estimates is included in Appendix B, Transportation Funding.

TPR Requirements	Toledo TSP Compliance
(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms. In addition to including rough cost estimates for each transportation facility and major improvement, the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each transportation facility and major improvement. These funding mechanisms may also be described in terms of general guidelines or local policies.	The Implementation and Policy Language section and funding sources listed in the project tables within the modal sections include cost estimates and how the project will be implemented.
(5) The transportation financing program shall provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities and improvements which would cause premature development of urbanizable lands or conversion of rural lands to urban uses.	The TSP includes the option for phasing of major improvements at Western Junction.

Attachment B: Findings of TPR Compliance in Municipal Code

TPR Requirements	Local Development Code Reference
660-012-0045 Implementation of the Transportation System Plan	
(1) Each local government shall amend its land use regulations to implement the TSP.	
(b) To the extent, if any, that a transportation facility, service or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.	Proposed amendments to TMC 17.08.020, TMC 17.12.020, TMC 17.16.020, TMC 17.20.020, TMC 17.24.020, TMC 17.28.020, TMC 17.32.020, and TMC 17.36.020 establish transportation facilities as a use permitted outright in each zone.
(c) Where a transportation facility, service or improvement is determined to have a significant impact on land use or requires interpretation or the exercise of factual, policy or legal judgment regarding the application of a comprehensive plan or land use regulation, the local government shall provide a review and approval process that is consistent with 660-012-0050 (Transportation Project Development). Local governments shall amend regulations to provide for consolidated review of land use decisions required to permit a transportation project.	There are existing references to coordination with other agencies in the notice procedures for Type II (Administrative) land use review in TMC 19.12.030(A)(4), and for notice procedures for Type III (Quasi-judicial) land use review in TMC 19.16.030(A)(1)(c).
(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions.	
(a) Access control measures.	Proposed amendments to TMC 17.48.055 include access management measures.
(b) Standards to protect future operation of roads, transitways and major transit corridors.	TMC 17.48.030 include access standards to protect the future operation of roads, transit ways, and major transit corridors.
(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary surfaces, and by limiting physical hazards to air navigation.	There are existing references to notifying airport owners of possible zoning changes in accordance with ORS 227.175 in the notice procedures for Type III (Quasi-judicial) land use review in TMC 19.16.030(A)(1)(c) and in notice procedures for Type IV (Legislative) land use review in TMC 19.20.040(B)(1)(f).

TPR Requirements	Local Development Code Reference
(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites.	There are existing references to coordination with other agencies in the notice procedures for Type II (Administrative) land use review in TMC 19.12.030(A)(4), and for notice procedures for Type III (Quasi-judicial) land use review in TMC 19.16.030(A)(1)(c).
(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities.	TMC 17.48.040 includes language for conditions to development proposals and their impact on transportation facilities.
(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of: land use applications that require public hearings, subdivision and partition applications, applications which affect private access to roads, applications within airport noise corridor and imaginary surfaces which affect airport operations.	There are existing references to coordination with other agencies in the notice procedures for Type II (Administrative) land use review in TMC 19.12.030(A)(4), and for notice procedures for Type III (Quasi-judicial) land use review in TMC 19.16.030(A)(1)(c).
(g) Regulations assuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities and performance standards of facilities identified in the TSP.	Amendment to TMC 16.04.050 includes minimum requirements and standards of new development to conform with the functions, capacities and performance standards of facilities identified in the TSP.
(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth in 660-012-0040(3)(a-d).	
(a) Provide bicycle parking in multifamily developments of 4 units or more, new retail, office and institutional developments, transit transfer stations and park-and-ride lots.	Proposed new subsection TMC 17.44.070 includes bicycle parking standards for new development.
(b) Provide “safe and convenient” (per subsection 660-012-0045.3(d)) pedestrian and bicycle connections from new subdivisions/ multifamily development to neighborhood activity centers; bikeways are required along arterials and major collectors; sidewalks are required along arterials, collectors, and most local streets in urban areas except controlled access roadways.	Proposed new subsection TMC 16.14.050 includes street standards that require bikeways and sidewalks. Existing language in TMC 16.14.050 includes provisions for the safe and convenient bicycle and pedestrian connections. Existing language in TMC 16.16.090 includes safe and convenient access for pedestrians and bicyclists.
(c) Off-site road improvements required as a condition of development approval must accommodate bicycle and pedestrian travel, including facilities on arterials and major collectors.	Existing language in TMC 16.14.050 includes provisions for the safe and convenient bicycle and pedestrian connections. Proposed City street design standards in TMC 16.14.050 include pedestrian and bicycle facilities on arterials and collectors.
(e) Provide internal pedestrian circulation within new office parks and commercial developments.	Existing language in TMC 16.16.090 includes safe and convenient internal circulation for pedestrians and bicyclists in development proposals.

TPR Requirements	Local Development Code Reference
(6) As part of the pedestrian and bicycle circulation plans, local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas.	Proposed new subsection TMC 16.14.050 includes street standards that require bikeways and sidewalks. Existing language in TMC 16.16.090 includes safe and convenient access for pedestrians and bicyclists.
(7) Local governments shall establish standards for local streets and accessways that minimize pavement width and total ROW consistent with the operational needs of the facility.	Proposed amendment TMC 16.14.050 establishes transportation facility standards for local streets based on functional classification and accessways depending on facility type.
660-012-0060 Plan and Land Use Regulation Amendments	
Amendments to functional plans, acknowledged comprehensive plans, and land use regulations that significantly affect an existing or planned transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility.	Existing language in TMC 16.16.090 includes criteria for preliminary evaluation of planned development that includes consistence with allowed land uses.

Appendix G
Public Involvement Process

Public Involvement Process

The Toledo TSP process involved the community a number of ways. A wide variety of stakeholders participated in the Plan development by meeting with project staff, providing background information, attending Project Advisory Committee (PAC) meetings, attending public Open Houses, attending Planning Commission and City Council hearings and worksessions, and visiting the project's website. Each of these activities are described below, along with meeting materials and summaries, where appropriate. The project team developed a Public Involvement Plan at the beginning of the project that describes the process for involving the public.

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Public Involvement Plan

PREPARED FOR: City of Toledo Staff

COPY TO: David Helton, ODOT
Terra Lingley, CH2M HILL

PREPARED BY: Brandy Steffen, CH2M HILL

DATE: October 4, 2012

Introduction

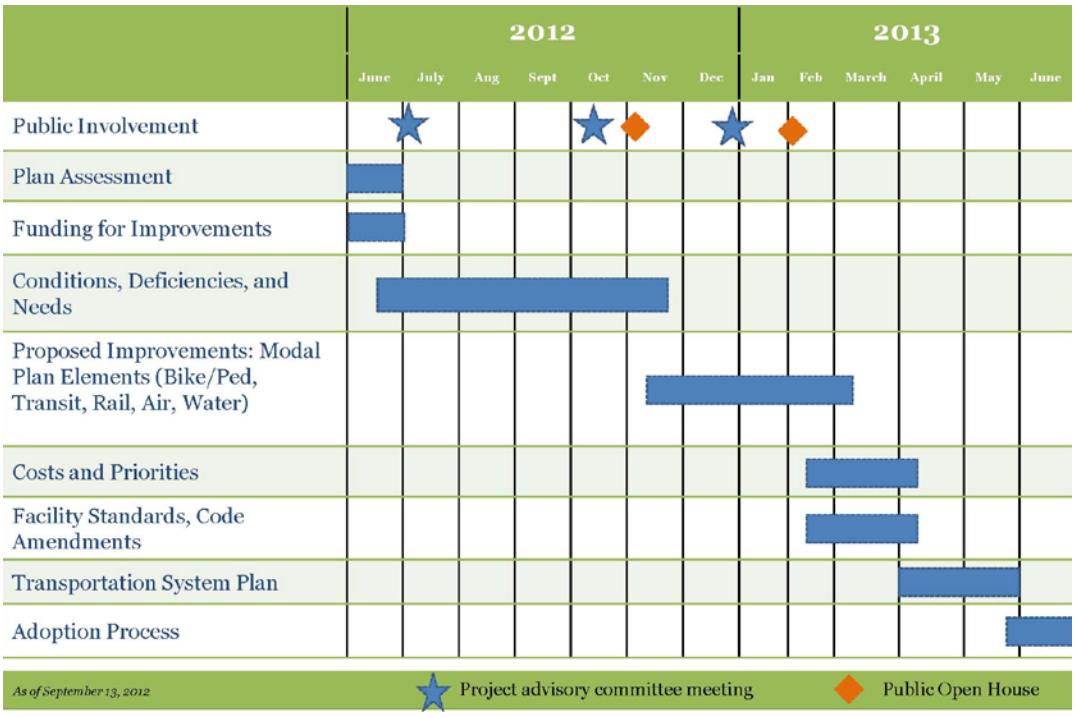
This memo describes the proposed public involvement plan that will support the Toledo Transportation System Plan (TSP) project. The TSP will identify developments needed to improve connectivity for all travel modes, support planned land uses and economic development, and reduce reliance on the automobile. The project will also create consistency between the TSP and other local and state policies, plans, and rules (including the Transportation Planning Rule).

The outreach process, goals, and messaging are outlined below. Additionally, key messaging statements are included to assist the project team when discussing the project with the media or the public. Finally, outreach activities are detailed below along with assignments of responsibility and timelines for completion.

Outreach Process

The project schedule (shown in Figure 1) outlines the timeline for technical work and public outreach processes for the project, which is expected to be completed by June 2013. Public involvement opportunities will be provided throughout the project, but focused on key milestones. Three project advisory committee (PAC) meetings and two open houses are scheduled.

Figure 1 - Project Schedule



Project Description

The following text will be used in public materials throughout the outreach process to describe the project.

> *The City of Toledo is creating a plan for the future of transportation in Toledo. This transportation system plan (TSP) will look at ways to improve connections for everyone traveling in or through the city, either by foot, bike, car, freight, boat, or air. The plan will also support land uses and economic development goals set by the city, while ensuring that Toledo complies with all state and local regulations, policies, and rules. The plan is expected to be finished by June 2013. More information about the plan and ways to get involved with the project, can be found on the project website www.GettingAroundToledoOregon.org*

Goals of the Public Involvement Plan

The City of Toledo and Oregon Department of Transportation (ODOT) are committed to an approach that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns that can be considered through equitable and constructive two-way communication between the project team and the public.
- Encourage the participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language by offering alternative accommodations (e.g. translation services, transportation).
- Promote fair treatment so that no group of people (racial, ethnic, or a socioeconomic group) bears a disproportionate share of the negative environmental consequences resulting from a program or policy.
- Ensures that public contributions are considered in the decision making process and can influence the agency's decision.

To reach these goals, the following plan has been developed. It will be revised as needed, to ensure that outreach with the public meets these goals. The public involvement program must include specific steps to provide opportunities for participation by federal Title VI communities. City and consultant shall utilize the ODOT Title VI (1964 Civil Rights Act) Plan guidance to identify Title VI populations, formulate public involvement strategies, and report outreach efforts to and participation by Title VI communities.

Target Audiences/Stakeholders

Stakeholders for this project include the City of Toledo, transportation interests, neighborhood and business interests, media, emergency service providers, and the traveling public.[i]

Table 1 - Target Audiences/Groups

Stakeholder Category	Examples
Government Agencies	Toledo City Council, Toledo Public Works Sounding Board, Toledo Planning Commission, Lincoln County, ODOT, Confederated Tribes of Siletz Indians, Department of Land Conservation and Development (DLCD)
Transportation stakeholders	Willamette & Pacific Railroad, Portland & Western Railroad, Yaquina Pacific Railroad, Greyhound bus, Bicycling and Running Groups, Port of Toledo, Amtrak (bus), Lincoln County Transit, Toledo State Airport
Businesses	Chamber of Commerce, Downtown Business reps, Georgia-Pacific Corporation, Freight companies, Oregon Forestry Department
Media	Newport News, Yaquina Wavelength, local radio stations (KWAX, Newport 91.9FM is run by University of Oregon)
Residents/ Traveling public	Lincoln County School District, Disabled Committee, Head Start, Olalla Center for Children and Families, Mid-Coast Christian School, Abundant Life Academy
Emergency service providers	Toledo Police, Fire and Rescue

Environmental Justice Outreach and Title VI Compliance

The project team conducted a review of area demographics to understand the concentrations of low-income, minority, and limited-English proficient residents. The analysis of demographics will be used to refine the public involvement plan (PI plan) as needed. However, regardless of concentration, members of all of these groups will be invited to participate in the planning process and accommodations will be made (e.g. translation services) to encourage their participation. The project will also compile a Title VI report at the end of the project. This report will compile all Title VI activities, document project process and outreach for all low income, race, gender, and age groups.

To engage these communities, the PI team will employ the following strategies:

- **Project Advisory Committee (PAC) Meetings:** include groups that advocate for or serve as networking places for these traditionally under-served communities during these meetings.
- **Community open houses and events:** identify partner organizations that can co-host or promote open house events to traditionally underserved communities. Collect demographic information (anonymously) at all public events to be added to the final report.
- **Translation or special accommodations:** translation services and other special accommodations will be provided at all meetings upon request.

Below is demographic information from the 2010 US Census for the project area. In Toledo, there is a higher percentage of residents below 17 years old and living below the poverty threshold, compared to the county and state. There are also a lower percentage of Hispanic/Latino residents, compared to the county and state.

Table 2 - Population Demographics by Location

Demographic Category	Toledo	Lincoln County	State of Oregon
Population	**3,465**	**46,034**	**3,831,074**
Age 65 and Over	12%	12%	14%
Age 17 and Under	25%	17%	22%
Male	49%	-	-
Female	51%	-	-
White	90%	88%	89%
African American	1%	0%	2%
American Indian	4%	4%	2%
Asian American	1%	1%	4%
Pacific Islander	0%	0%	0%
Two or more races	4%	4%	3%
Hispanic or Latino	5%	8%	12%
Median Household Income	**$43,871**	**$39,738**	**$49,260**
Population – Poverty Status Determined		**-**	**-**
Below Poverty	19%	16%	14%

The project team also collected demographic information for the Lincoln County School District, since school information can provide another accurate representation of the social characteristics of the city (compared to Census data) since it is collected yearly. The 2010-11 AYP report (Adequate Yearly Progress report, conducted by the Oregon Department of Education as required by the federal government) collected data on the school district's characteristics from the Toledo elementary and high schools (see Table 3).

The school data information shows that over 50% of all students in elementary and high schools are economically disadvantaged (which means that students qualify for free and reduced price lunch programs[ii]). This is a greater percentage than the Census data's 18.8% below the poverty level in 2010. The racial/ethnic background of students shows a wider split in demographics than the 2010 Census data, with 14-15% of students as American Indian compared to Census data of 3.8%; the other demographic percentages are similar between the school and Census data.

Table 3 - School Demographics, AYP 2010-11 data

Category	Toledo Elementary	Toledo Jr./Sr. High
All students	**206**	**152**
Economically disadvantaged	119 (57%)	76 (50%)
Limited English proficient	2 (0.9%)	--
Students with disabilities	32 (15%)	30 (20%)
Asian/Pacific Islander	--	1 (0.6%)
Black (not of Hispanic origin)	1 (0.5%)	1 (0.6%)
Hispanic origin	10 (5%)	6 (4%)
American Indian/Alaskan Native	30 (15%)	21 (14%)
White (not of Hispanic origin)	156 (76%)	122 (80%)
Multi-racial/multi-ethnic	9 (5%)	1 (0.6%)

Public Involvement Tools and Methods

This portion of the memo identifies key public involvement activities that the consultant team or city staff members have been and will conduct during the project.

Stakeholder Interviews

CH2M HILL conducted several stakeholder interviews over the summer of 2012, as part of the existing conditions data collection process, in an effort to encourage early and continuous public involvement. Those interviewed included businesses, service providers, and other interested parties (see the stakeholder interview summary for greater detail). Stakeholders were encouraged to send out information to their constituents as the project progresses.

Stakeholder Mailing List

CH2M HILL will develop and maintain a mailing list of 500 addresses, based on the stakeholder interviewees identified above and from interested individuals identified through public events and the project website. CH2M HILL will maintain the mailing list, updating it before events.

Project Website

CH2M HILL developed the project website in the summer of 2012 to provide basic information about the project in a reader-friendly manner. The website also allows the public to view upcoming meetings and provide comments, either online or by contacting city staff by phone, email, or mailed letters. Pages on the website include a project overview, the schedule, ways to get involved, and a resource page where project memos will be posted. The project website allows busy residents or individuals interested in the project that don't live or work in Toledo, to stay involved with the project.

Table 4 - Website Tasks

Task	Responsibility	Schedule	Review
Website text and graphics, draft	CH2M HILL	7/26	City of Toledo
Finalize and post website text and graphics	CH2M HILL	8/1	
Website update and meeting materials posted	CH2M HILL	Three days before meeting	

Project Advisory Committee (PAC)

The city has developed a list of Project Advisory Committee (PAC) members and the first meeting, of three, was held in July. The PAC will meet two more times to review Project deliverables and provide guidance on the project work tasks. The members of the committee are key stakeholders, including:

- City Council
- City Planning Commission
- The Port of Toledo
- Lincoln County
- Lincoln County Transit
- Portland & Western Railroad
- Department of Land Conservation and Development (DLCD) Regional Representative
- ODOT Area Representative
- Lincoln County School District
- Alan Brown Tire Center
- Dahl Disposal
- Mitchell Trucking
- Georgia-Pacific Toledo
- Toledo Police Department
- Toledo Fire Department

Each meeting is open to the public and advertised on the project website. The first meeting included a review of the project and the committee provided comments on the first two memos (funding opportunities and review of existing plans and policies relevant to the TSP). The second meeting will allow the group to review and comment on the existing and future conditions, deficiencies, and needs before the information is presented to the general public at the first open house. The final meeting will allow the group to review the remaining memos which will outline potential improvements for the City's transportation system for pedestrians, cyclists, transit service, rail, water, and air. This final meeting will be held before the second open house.

Table 5 - PAC Tasks

Task	Responsibility	Schedule	Review
PAC Agenda and other materials	CH2M HILL	One week before meeting	City of Toledo
Distribute materials to PAC and post to website	CH2M HILL	Three days before meeting	
Develop meeting summary	CH2M HILL	One week after meeting	City of Toledo
Finalize meeting summary and post to website	CH2M HILL	Two weeks after meeting	

Open House #1

The first open house will be held in November 2012. The goal of the meeting will be to solicit public input on the existing and future transportation conditions, deficiencies, and needs, as well as introduce the project to the community. The format of the meeting will be a standard open house format which allows participants to drop into the meeting anytime, walk around the room reading display boards with information, provide input on comment forms and on maps, and to speak with project staff members.

Below is event outline (preparation activities are expected to be the same for the second event). The city has confirmed the date, time, and location of event and made the reservations.

- **Wednesday, November 7, 2012**
- **5:00 to 7:00 pm** to piggy-back off of the City Council meeting that starts at 7:00 pm

- **City Hall** (206 N Main Street)

Terra Lingley and at least one, but up to two other technical staff persons from CH2M HILL will attend the open house, along with an ODOT staff member, and three city of Toledo staff members (at least one will staff the sign-in/welcome table to welcome residents and explain the purpose of the meeting).

A summary of the event will be written by CH2M HILL, which will include all verbal and written comments collected through the flip charts, comment forms, or maps. The draft summary will be provided to City of Toledo one week after the meeting, allowing the city one week for review, and then the final summary will be posted to the project website (two weeks after the event).

Open House Announcements

The event will be advertised many ways in an effort to encourage the public to attend. Due to high attendance at city council meetings, the open house has been scheduled before those regularly scheduled meetings to increase attendance at the open house (piggy-backing activities). A press release, display ad, and a flyer will be developed by CH2M HILL for the City to distribute to local media outlets.

Table 6 – Open House Announcements/Notice

Task	Responsibility	Schedule	Review
Post open house dates to project website	CH2M HILL	10/22	
Post open house dates to City website	City of Toledo	10/22	
Post open house dates to Lincoln County website	City of Toledo	10/22	
Post open house materials to project website	CH2M HILL	11/2	
Postcard sized ad for city newsletter, draft	CH2M HILL	10/5	City of Toledo
Postcard sized ad for city newsletter, final	CH2M HILL	10/12	
Run postcard sized ad in city newsletter	City of Toledo	10/15	
Flyer, draft	CH2M HILL	10/5	City of Toledo
Flyer, final	CH2M HILL	10/12	
Distribute and hang Fliers	City of Toledo	10/22-26	
Press release, draft	CH2M HILL	10/5	City of Toledo
Press release, final	CH2M HILL	10/12	
Distribute press release to Newport news, Yaquina Wavelength, other local papers and media outlets	City of Toledo	10/15	
Announce Open House at next City council and planning commission meetings	City of Toledo	October	
Develop mailing list for email distribution	CH2M HILL	10/15	City of Toledo
Send PAC and mailing list email with postcard information and/or flyer for additional distribution through stakeholders	City of Toledo	10/22	

Materials

All materials will be prepared by CH2M HILL and reviewed by the City of Toledo. Materials will be provided in draft form by October 22 with comments due to CH2M HILL by October 29.

Table 7 – Open House Materials

Task	Responsibility	Schedule	Review
Sign-in sheet, staff name tags, welcome board	CH2M HILL	10/15	City of Toledo
Comment form/Title VI collection, draft	CH2M HILL	10/22	City of Toledo
Comment form/Title VI collection, final	CH2M HILL	10/29	
Display boards, draft	CH2M HILL	10/22	City of Toledo
Display boards, final	CH2M HILL	10/29	
Introduction/ What can you do tonight? Project overview and Purpose & Need Schedule graphic Next steps			
What is a TSP? Who is involved? What can you do tonight?			
Problems or needs (is anything missing?) Opportunities for improvement (is anything missing?)			
Extra maps of town for the public to mark up	CH2M HILL	10/29	

Environmental Justice/Title VI approaches

The postcard ad, poster, and press release will include a Spanish language message providing instruction on how to request a translator. The city will ask local business owners in the area who may serve non-English speaking customers to attend the open house and display the poster. The business owners should be told that translation services will be available and to please share the information with their customers, friends, and neighbors. The meeting will be held in accessible facility.

Open House #2

The second open house will be held in February 2013. The goal of the meeting will be to solicit public input on proposed improvements to the local street system, pedestrian and bicycle system, and transit system in Toledo. The format of the meeting will be a standard open house format which allows participants to drop into the meeting anytime, walk around the room reading display boards with information, provide input on comment forms and on maps, and to speak with project staff members. The event outline will be the same as the first open house, listed above (with all dates changing to similar timeframes in January/February). There may be changes made to the second event's format, based on the success of the first event.

[i] Some demographic information was found at http://www.city-data.com/city/Toledo-Oregon.html

[ii] The free and reduced price lunch program in 2011-12 defined eligibility for the program to households with 3 people to an annual income of $33,874 for reduced price meals and for $23,803 for free price meals (households receiving supplemental nutrition assistance program (SNAP), temporary assistance to needy families (TANF), or food distribution program on Indian reservations (FDPIR) are also eligible for free meals). http://www.ode.state.or.us/news/announcements/announcement.aspx?id=6016&typeid=4

Stakeholder Interviews

As part of the TSP process, the project team interviewed seven stakeholders ranging from business owners, community members, and emergency services personnel. Summaries of each of the interviews are below.

Dave Enyeart, Chief of Police, Will Ewing, Fire Chief, Brett LaCroix, Pacific West Ambulance Services

Interview on Thursday, July 12, 2012

- Freight traffic is the biggest issue in Toledo. Trucks have hit street lights on Main Street in the past.
- The problem is how to get trucks to use truck routes – most rely on their GPS systems, which do not account for the steep hills. Better/larger truck route signage is needed. Truck route indications could be painted on roads.
- There are a number of traffic fatalities near OR 229, Western Loop, US 20, and Business Loop 20. The most recent traffic fatality was at the T intersection near Dairy Queen (near US 20) - driver failed to stop and struck a car on Business Loop 20.
- Other dangerous roads in Toledo include East Slope Road, which is steep and narrow; there are weather-related accidents on this road. Weather includes ice storms which make the road slippery to navigate.
- Main Street/Business Loop 20 has poor visibility.
- 1st Street, near the Post Office is problematic for pedestrians. Need a stop sign on Butler Bridge Road at 1st Street.
- Stop sign control is needed at the intersection of Butler Bridge Road and 1st Street.
- Local roads that are really narrow: Alder Lane to 10th Street, NE 10th and NE 8th.
- The elementary school is located on a truck route – concerns with students biking and walking to school with the amount of freight traffic.
- Burgess and Arcadia Roads, as well as Business Loop 20 all lack sidewalks. People walk on Business Loop 20 between French Avenue and 1st Street, but there are no shoulders.
- There is a need for a bike route system to get from the eastern part of town into downtown.
- There may be a concept to make 1st Street one way downhill and 2nd Street one way uphill.
- Need sidewalks near the Park on East Slope Road.
- There have been bicycle crashes (and a car/train collision) at intersections with railroad tracks. There are few train warning signs. At Georgia Pacific, there is no warning gate near Gate #3, though few trains use that connection. The engineer throws a flare in the roadway in advance of the train crossing the roadway.
- Traffic is generated at Georgia Pacific during shift changes, from 6:00 to 6:30 AM and at 3:30 PM when the day shift ends.
- Suggests changing city codes regarding parking – either enforce the two hour limit or remove the signs. Another option is to meter the parking.

Celeste Matthews, Toledo Heritage Center Volunteer, Former City employee

Interview on Thursday, July 12, 2012

- Lives off US 20 between Toledo and Newport. She comes to town a couple days each to work at the Toledo Heritage Center.
- Bay Road, originally a railroad right-of-way, is a good bicycling route, though the hill close to town is a huge barrier. Before the Port was using the roadway, cyclists could use the Port road to get past the hill, and then Bay Road over to Newport.
- Sidewalks on Business Loop 20 are great and should be extended to the intersection with Sturdevant Road.
- Sturdevant Road is a truck route and has no walking facilities. A multiuse path near Sturdevant would help address this issue.
- The pedestrian crossing at 1st near the Post Office is not in a great location. Most pedestrians jaywalk since the crosswalk is not located in an area that makes sense.
- Concerned with truck traffic on Butler Bridge Road. There should be signs warning of pedestrians on the roads, specifically at the bottom of Main Street towards the Post Office. The street is not comfortable for walkers, with a sidewalk on only one side of the street.
- There are gaps in the sidewalk system near Mary Harrison School/Flower Center at 3rd and Douglas St. The gap requires pedestrians to cross at Douglas. Burgess Street, near the fire station, also lacks sidewalks – the only sidewalks are in front of the fire station, which is recent construction.
- Arcadia is also difficult to walk on, though the narrow road does not lend itself to a sidewalk.
- Two hour parking limits should be enforced. There are parking problems on busy days. If you can't park on Main Street, you have to park further out and must walk up and downhill. There are problems with business owners and employees parking all day in the on-street spots.
- People walk from downtown Toledo to Dairy Queen near US 20. This is a dangerous walk. The Dairy Queen parking lot is used for the Chinook Winds Shuttle drop-off, the Valley Wind Shuttle, and informal carpools.
- The Georgia Pacific mill generates the most traffic in town.
- The annual Summer Festival is a big event held during the last weekend of July; brings 30,000 people to town.
- The antique car show and festival during the 1st weekend of August is a big event – Main Street is closed for the day.
- The Wooden Boat Show is also popular, but this event does not generate a lot of traffic on Main Street.
- Thursday Market is held each Thursday from mid-June to end of September, and there is an art walk on Labor Day weekend that draws visitors to town.

Dick Wood, owner of Timbers Restaurant

Interview on Thursday, July 12, 2012

- Has been a business owner in Toledo for 42 years.
- The previous TSP planned to make Main Street one-way, with one lane of parallel parking and angled parking on the other side of the street. This project presented concerns with freight deliveries blocking traffic. The TSP planned to add curb bulb-outs and landscaping at intersections, but that would have impeded truck turning ability.
- Has concerns about transportation planning; feels that curb bulb-outs are not a good idea because they make it hard for trucks making deliveries to turn on Main Street.
- It's difficult to turn at the newly reconstructed intersection at Butler Bridge, Main Street and 2nd Street – replaced the gentle turns with tighter turns to enter or exit Main Street.
- There have been many close calls at the intersection of Business Loop 20 and Main Street. He suggests removing the brick post at this intersection and replacing with a narrower metal post to improve the sight distance.
- It is important to work with Georgia Pacific to update truck routes in the city.
- There are no problems with parking – downtown has enough parking to accommodate visitors.
- Walking is generally difficult in the city, even where there are sidewalks because Toledo is hilly and difficult, especially for older people. Constructing wider intersections would accommodate trucks.

Sharon Kelly, Ivan Kelly Gallery Owner

Interview on Tuesday, July 17, 2012

- Trucks sometimes do not use the designated truck route; they get stuck on Graham and Alder. Better signage is needed to direct traffic to the right route. Two or three trucks a week inappropriately use these streets.
- Railway crossings are rough; some vehicles have to drive at an angle to cross them.
- No concerns with safety.
- Vehicles turn too fast from Business Loop 20 onto Alder Street – the intersection is dangerous because of the close intersection with 1st Street as well, and the vertical and horizontal curves make it difficult to see.
- Parking is really only a problem one day a year during the Car and Antique show when Main Street is closed.
- Kids walk around town during the summer, but don't walk to school. Most kids live too far from school to walk. There is an issue with kids skateboarding down the steep hills.
- There is lots of congestion at the intersection of OR 229, US 20 and Business Loop 20 in the morning around 8 AM. Visibility is also a problem at this intersection.

Jim Irvin, Portland and Western Railroad

Phone interview on August 15, 2012

- Portland and Western is an important line in Toledo
- Currently merging with Rail America – changes the organizational region for Toledo.
- PNWR only serves the mill, and lease the tracks from Union Pacific
- ODOT rail is in charge of crossing upgrades – lights and gates
- The company has an annual budget for operations and maintenance, which changes from year to year.
- Negotiating with UP on a new lease for this year.

Project Advisory Committee

The Project Advisory Committee (PAC) included representatives from the business community, the railroad, ODOT, the City, trucking, GP, the Port of Toledo, etc. The PAC met 4 times, and Table 1 provides the dates and purpose of each of the meetings.

TABLE 1
PAC Meeting Dates and Purpose

Meeting Number	Date	Purpose
1	July 17, 2012	Provide an introduction to the Toledo TSP Devine the PAC's roles and responsibilities Review the first two technical memoranda: Plan Assessment and Funding sources
2	October 11, 2012	Discuss Goals and Objectives for the TSP Review the existing and future conditions, provide feedback on findings
3	February 21, 2013	Review and discuss alternatives for all modes to include in the TSP Discuss next project Open House
4	April 25, 2013	Review and discuss content of the TSP Discuss Toledo Municipal Code Changes

Materials from each of the PAC meetings are included below.

PAC Meeting 1 Materials

Toledo TSP Project Advisory Committee (PAC) Meeting #1 Agenda

Date: Tuesday, July 17, 2012

Time: 3:00 – 5:00 p.m.

Location: Toledo Fire Department 285 NE Burgess Road, Toledo

Meeting Purpose:

- Provide an introduction to the Toledo Transportation System Plan (TSP)
- Define the PAC's role and responsibilities
- Review the first two technical memoranda: Plan Assessment and Funding Sources

3 p.m.	**Welcome and introductions** - Self Introductions - Meeting Agenda - Committee Purpose	Adam Denlinger/ Michelle Amberg
3:10 p.m.	**Transportation System Plan (TSP) Introduction and Overview** - What is a TSP? - Roles (ODOT, City, PAC, Consultants) - Project Objectives - Schedule and Key Milestones	David Helton and Larry Weymouth
3:20 p.m.	**Committee Operations** - Meeting Guidelines	Terra Lingley
3:30 p.m.	**Technical Memo #1: Plan Assessment Overview** - Previous Plans - Goals and Objectives - Discussion	Terra Lingley
4:10 p.m.	**Technical Memo #2: Funding Sources Overview** - Funding: How It Really Works - Past Project Funding and Existing Sources - Potential Funding Sources	David Helton and Larry Weymouth
4:25 p.m.	**Transportation Values** - What do you think works well in our existing transportation system? - What would you like to see change over the next 20 years?	All
4:55 p.m.	**Future Meetings, Next Steps, Adjourn**	All

Toledo TSP Project Advisory Committee Purpose and Guidelines

Purpose

The Project Advisory Committee (PAC) has been formed to provide "on the ground" guidance to the Project Management Team (PMT) on important issues for community members and other project stakeholders. The committee will:

- Provide individual and group input to the Toledo Planning Commission and City Council on policies and projects to be included in the City's TSP.
- Individual and group ongoing input and feedback to staff as the TSP is developed.
- Advice and input on how to engage other community members in developing the TSP.

Roles and Responsibilities

Members of the PAC will:

- Attend three meetings between July 2012 and January 2013
- Actively participate in the project by contributing to project meetings and reviewing materials before the meetings.
- Abide by the agreed upon meeting guidelines.
- Represent the interests and perspectives of who they represent.
- Ask questions and seek information to ensure understanding.
- Talk to others in the community to give and receive information about the TSP.
- PAC members will not make group recommendations based on consensus or a majority vote; rather, the product of the meetings will be a record of discussion that includes all points of view and documents any general points of agreement.

The Facilitator will:

- Ensure that everyone has an opportunity to participate.
- Keep meetings moving and focused on the agenda.
- Start and end meetings on time unless the group agrees to extend the meeting time.

Draft guidelines

- Meeting materials will be distributed by e-mail, generally one week in advance of meetings.
- Meetings will begin and end on time. If agenda items cannot be completed on time, the group will decide if the meeting should be extended or if the discussion can continue in another manner (via a phone call or email communication).
- A brief summary will be prepared after each meeting documenting the discussion.
- All project and meeting materials will be posted to the project website: www.gettingaroundtoledooregon.org
- At the meetings, PAC members will:

- Share the available speaking time
- Be respectful of a range of opinions
- Focus on successfully completing the agreed upon agenda
- Avoid side discussions when others are speaking
- Voice concerns and complaints at the meeting, not outside the meeting
- Put cell phones on silent

Communications Outside of Meetings

- PAC members are encouraged to share the committee's progress with their respective constituencies at meetings, by e-mail or through newsletters.
- Terra Lingley (Consultant staff member) will be responsible for distributing information to PAC members, so everyone has the same information. Relevant discussions of project issues should occur at the PAC table, for the benefit of allowing all members and the Project Management Team to be informed and participate.
- Committee members should communicate outside of meetings in ways that are respectful of each other and the PAC process. Members should speak to the media and others only on their own behalf and not on behalf of the PAC.

Getting Around Toledo, Oregon

PAC Meeting #1 – 07/17/12

Who is involved in creating the Plan?

- **City of Toledo Staff**
  - Adam Denlinger, Public Works Director
  - Michelle Amberg, City Manager
  - Stuart Cowie, Associate Planner (Lincoln County)
  - Arlene Inukai, Planning and Public Works
  - Allen Stewart, RARE, Main Street Program
- **Oregon Department of Transportation**
  - David Helton, TGM Program Coordinator
- **Public**
  - **Project Advisory Committee Members**
  - **Residents and Others**
- **Consultant Team**
  - Larry Weymouth, CH2M HILL
  - Terra Lingley, CH2M HILL
  - Andra Henriques, CH2M HILL

Who does what in this process?

City, Consultant, and ODOT Tasks

- Identify funding
- Analyze the problems
- Identify strategies and solutions
- Compare feasible solutions
- Recommend policy changes

PAC Tasks and 3 meetings

- Decide project goals and objectives
- Determine the issues
- Comment on solutions
- Advise or priorities and funding
- Comment on policy changes and the Draft Plan

Public Involvement and 2 Events

- Provide details and reality check
- Offer insights, perspectives, and constructive criticism
- React to alternatives
- Interact via website: www.gettingaroundtoldeoregon.org

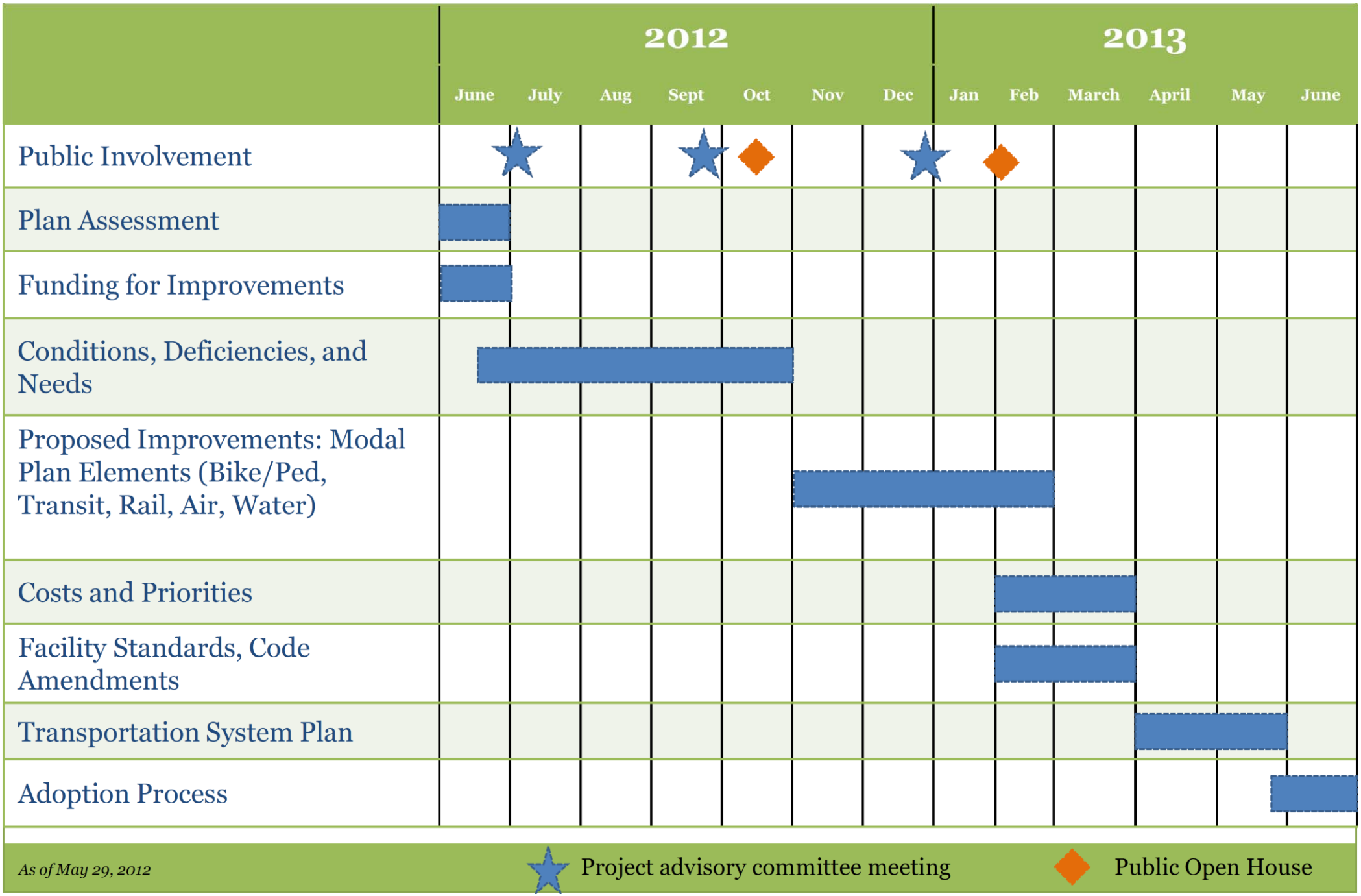
What are the project objectives?

1. **Safe**, efficient, and well-connected multi-modal transportation network
2. Enhance **economic development** through rail and water transportation opportunities unique to Toledo
3. Clear vision and design for future improvement of **Business Loop 20**
4. Coordinate planning for **improving OR 229, Business Loop 20, and US 20 intersection**
5. **Safe routes to schools** infrastructure plan

Project Objectives, Part 2

6. Safe and convenient network of **pedestrian and bicycle facilities**
7. Adequate **public participation** in the process
8. **Compliance** with the Transportation Planning Rule, Oregon Transportation Plan, and Oregon Hwy Plan
9. Prioritized transportation facilities and services **considering likely future revenues**
10. **Safe and reasonably smooth railroad crossings** for both vehicles and pedestrians

What is the project schedule?



Technical Memo #1: Plan Assessment

- Purpose: Look at existing plans, consider goals for the Toledo TSP
  - **Plans reviewed:**
    - Lincoln County Transportation System Plan
    - City of Toledo Comprehensive Plan
    - Port of Toledo Waterfront Connectivity Plan
    - Port of Toledo Waterfront Development Strategic Plan
    - Previous unadopted Toledo Transportation System Plan

Lincoln County TSP Applicable Goals

- Mobility
- Coordination
- Public Transportation
- Pedestrian and Bicycle Facilities
- Accessibility
- Environment
- Safety

2000 Toledo Comprehensive Land Use Plan

- **Citizen Involvement**
  - Opportunities for involvement in all phases
- **Transportation**
  - Safe, efficient, and multi-modal transportation system
  - Reduce reliance on the personal auto
  - Maintain efficient and safe truck routes and rail services to move people and goods
  - Develop and adopt a TSP with clear and objective local standards

Port of Toledo Waterfront Development Strategic Plan

- **Contains projects only**
  - Depot Slough trail – paved, accessible trail along the entire frontage of depot slough
  - Pedestrian connectivity downtown – safe and direct pedestrian connection at Butler Bridge Road

Port of Toledo Waterfront Connectivity Plan

- **Transportation objectives:**
  - Pedestrian connection improvements
  - Pedestrian and bicycle circulation
  - Improved ADA compliance/accessibility
  - Mobility for vehicles and freight
  - Increase awareness for waterfront amenities
- **Includes transportation projects**

Unadopted Toledo TSP

- **Goals**
  - Transportation Circulation/Safety/Mobility
  - Coordination
  - Community livability
  - Economic Development
  - Bicycles and Pedestrians
  - Public Transportation
  - Capital Improvements and Financing

Technical Memo #2: Funding

- **Purpose:** determine funding sources available for transportation projects in Toledo
  - Funding: How Does It Really Work?
  - Past project funding and existing sources
  - Potential funding sources

How were past projects funded?

- **Butler Bridge/Main Street/2nd Street improvements**
  - Federal Bicycle and Pedestrian funds
  - City Street Fund
  - Port of Toledo
- **Port Transient Boat Dock**
  - Oregon State Marine Board
  - Federal Boating Infrastructure Grant
  - Federal Clean Vessel Act Funds
- **Slough Dredging**
  - Marine Navigation Fund
  - Oregon Business Infrastructure Grant

What are existing funding sources?

- **Federal Sources**
  - Highway Trust Fund
  - FTA grants
- **State Sources**
  - State Highway Fund
  - STIP
  - Oregon Parks and Recreation Local Government Grants
  - Oregon Transportation Infrastructure Bank
- **Local**
  - State Highway Revenues
  - Road Maintenance Fees
  - System Development Charges
  - Public Utility District Franchise Revenue

What are potential future funding sources?

- Federal Surface Transportation Funding
- Department of Energy Efficiency and Conservation Block Grants
- Roads District
- Local Improvement District (LID)
- Tax Increment Financing (TIF)
- Revenue and General Obligation Bonds
- Parking Fees
- Connect Oregon

Transportation Discussion

- What do you think **works well** in our existing transportation system?
- What would you like to **see change** over the next 20 years?

Thank you

- **Next meeting** – Mid-September, day/time that works best?
- Comments on technical memoranda by **July 25th**

Project Advisory Committee (PAC) Meeting #1

ATTENDEES:
Michelle Amberg, City of Toledo
Stuart Cowie, Lincoln County
Nic Dahl, Dahl Disposal
Adam Denlinger, City of Toledo Public Works
Jack Dunaway, City of Toledo City Council
Dave Enyeart, City of Toledo Police Chief
Will Ewing, City of Toledo Fire Chief
David Helton, ODOT
Terra Lingley, CH2M HILL
Bud Shoemake, Port of Toledo
Allen Stewart, City of Toledo
Larry Weymouth, CH2M HILL
Patrick Wingard, DLCD

COPY TO:

PREPARED BY: Terra Lingley, CH2M HILL

DATE: July 24, 2012

The City of Toledo Transportation System Plan (TSP) held its first Project Advisory Committee (PAC) meeting on July 17, 2012 from 3:00-5:00 p.m. at the Toledo Fire Department. The purpose of the meeting was to provide an introduction to the TSP, define the PAC's role and responsibilities, and review the first two technical memoranda: Plan Assessment and Funding Sources. Handouts of the agenda, PowerPoint presentation, and draft PAC roles and Meeting Guidelines were available along with the meeting sign-in sheet. The meeting began promptly at 3:00 pm and ended at 5:00 pm, as scheduled.

Introduction

Adam introduced the group and the purpose of the Transportation System Plan and thanked members for attending. Members present introduced themselves. Adam then reviewed the overall purpose of the project, which is to look at several aspects of Toledo's multimodal transportation system including: safety, operational improvements, US 20/Business Loop 20/OR 229 intersection, sidewalks, and railroad crossings.

David Helton from Oregon Department of Transportation (ODOT) explained what a TSP is all about. It seeks to plan for a transportation system to serve planned land use for a 20-year period. It includes an inventory of all elements of today's transportation system (roads, bike paths, sidewalks, transit, marine, airport, and pipeline) in Toledo's Urban Growth Boundary (UGB), and the elements' existing and future conditions, deficiencies, and needs. It is the city's plan not ODOT's, and requires early public participation for development. The public and the PAC are important to provide a reality check, so that information isn't missed, key issues are addressed, and proposed improvements are acceptable, ultimately by the City Council. Policies and ordinances might need to be revised to show support for particular types of improvements.

Transportation System Plan Overview

David and Larry provided a brief overview of the TSP process, the state requirements, the stakeholders for the TSP, and how the entities will work together to finish the project that will ultimately be adopted by Planning Commission and City Council. Larry shared the project schedule.

Committee Operations

Terra walked through the PAC guidelines and how meetings will be run. She stressed that this was not a decision-making body, but will provide valuable input and enhance the technical work to provide the project team with on-the-ground knowledge of transportation systems in Toledo. The guidelines include statements about allowing PAC members to speak and provide input, participating in a courteous manner, and allowing all voices to be heard. The guidelines also include expectations for PAC members, which include asking questions, providing input, and

attending meetings. The project team will provide meeting materials one week in advance by email, and project information will also be available on the project website: www.gettingaroundtoledooregon.com.

PAC members were asked to provide edits or comments on the guidelines by July 25th.

Technical Memo #1: Plan Assessment

Terra then walked through the first technical memorandum, describing that the Toledo TSP will need to coordinate with previous planning efforts including the Lincoln County TSP and the City's Comprehensive Plan. The presentation included goals that were included in the previous plans, and Terra then led a discussion about what goals should be included in the Toledo TSP to guide the project and help select transportation projects when they have been developed to ensure that the TSP meets Toledo's goals.

The discussion about Project Goals included the importance of safety as a project goal. PAC members also wanted aesthetics to be included in the goal statements – Toledo prides itself on having a clean and aesthetically attractive town. Any transportation projects in the TSP should include aesthetic considerations, but also take into account where they are located, and ensure that they are durable. Aesthetics could be included in design criteria to ensure that they are consistent throughout town.

Other members wanted to include a goal to coordinate with the railroad on improving railroad crossings. There was a derailment last week due to the poor quality of the tracks at the crossing.

Another important goal to the group was the safety and security of the transportation system, and the importance of having good routes for emergency events.

The airport was also discussed – the City may want to include an air policy section in the TSP to support future goals with regard to air transportation. One member asked if the City should be looking at adding helicopter landing spots associated with the airport.

David mentioned that as the technical work progresses, the group could revisit the goals to ensure that they are consistent with the plan as it is being developed.

The technical team will take these comments and create a set of project goals to be included in the TSP. These goals will be developed into criteria to help select transportation projects as they are developed in the TSP.

Technical Memo #2: Funding Sources

David described how ODOT provides funding from various programs, and how decisions are made to award funds for projects and that there are multiple funding "buckets" for different types of projects. Each program bucket has limitations of what can be funded. Individual projects are usually funded through a complex combination of sources. There will be very little funding for modernization (capacity improvements, new facilities) until an increase in transportation revenue. The current outlook for transportation funding is not great because the gas tax has not increased, inflation has gone up, and people are driving less or are driving more fuel-efficient vehicles. Also, ODOT borrowed money for past transportation projects against future federal and state revenue to make essential repairs to bridges and freeways. Those bills are coming due, so money collected now is going to pay down that debt.

Safety is one area that ODOT targets funding, so it is important to go through a planning process now due the importance of highway safety. Funding to improve safety concern areas is expected within the TSP's 20-year planning horizon. Because safety is so important, any project in Toledo with a safety element is more likely to be funded by the State. In addition, present funding formulas require a set-aside percentage for bicycle and pedestrian improvements for every dollar going to road improvements.

At the federal level, under the new Surface Transportation Act—"Moving Ahead for Progress in the 21st Century (MAP-21)—the funding buckets are being combined, and states are being given more flexibility in how to fund projects. Besides safety as a way to receive funding, it helps if Toledo were to put some of the city's own money into a plan for improvements over time—show progress, even if only 10-feet of sidewalk a year. The City also needs to work with the relevant Area Commission on Transportation (ACT) (Coastal Policy Advisory Committee on Transportation) to get the city's projects high on the ACT's priority list. Which local projects go on the 5-year

State Transportation Improvement Program (STIP) project list for state/federal funding comes from ACT recommendations. The city's priorities should be revisited periodically and made known to the ACT. The City itself has an opportunity to capture revenue for transportation improvements at the time development occurs in the city by collecting system development charges. Projects proposed in the TSP are not fiscally constrained—that is, funding does not need to be identified.

Larry then reviewed the most recent transportation projects and how they were funded in the City, along with an overview of existing and potential future transportation funding sources. The Street Fund revenue has increased from $575,000 in 2007-2008 to $979,000 in 2011-2012 (and latest amount for 2012-2013 is $1,164,000). Because most of the PAC members present were City staff familiar with City revenue and the budget, highlights of the memo were covered in the PAC presentation.

Transportation Values

Terra then asked each PAC member present what worked well and what members would like to see change over the next few years. Each PAC member was given a chance to talk about both questions. Responses are recorded below:

What works well?

- Collaborative process
- Connections to waterfront – are currently being improved over the railroad tracks.
- No congestion problems (except western junction – the intersection of US 20, Business Loop 20, and OR 229)
- Designated truck route – it is not perfect, but it has improved freight issues in town
- Multi-modal system works fairly well
- Sidewalks along Business Loop 20 and in downtown
- City benefits from freight rail with maintained mainline tracks to coast
- Water traffic is good: the Port is able to handle large vessels
- The working railroad is a good aspect of the transportation system – provides freight access for industry.
- Lincoln Co. transit works ok
- Multi-modal transportation system could work really well
- Sidewalks – Business Loop 20 and downtown.

What would like to change in 20 years?

- Multiple PAC members were concerned with the Western Junction intersection – safety and congestion concerns continue to make that intersection dangerous and difficult. ODOT owns and operates US 20 and OR 229, and any projects would need to be approved by the agency, but it is an acknowledged area that needs to be improved.
    - Speeding is a big problem – it is 45 mph at that location, though vehicles are usually around 55 mph.
    - During tourist season there is heavy traffic making it difficult to turn or cross the intersection
    - Entrance into Dahl's Disposal business west of Western Loop connection – the new guardrails require trucks to take the opposing lane while making a turning movement – in the past they could infringe on the ditch a bit, now the turn is tighter and more difficult.
- There are a lot of near misses near Dahl's.
- There are a lot of improvements and modernization projects to bring city roads up to standards

- Pedestrian connectivity upgrades, and a better bike connection to Bay Road through the Port property (possibly – there are concerns with landslides here – is there another route besides the boatyard?) to allow bicyclists to avoid the steep hill and narrow roadway near town.
- East junction (Business Loop 20 and US 20) is slumping into river
- Add sidewalks on West Junction if a project is included there
- Outlying areas need pedestrian improvements to connect to schools – there are few sidewalks out that way
- There is a lack of connectivity to East Slope Park
- Railroad crossings are extremely difficult and bumpy
- Pedestrians walking from the Dairy Queen on Business Loop 20 do not have a shoulder or sidewalk to walk on – need a pedestrian route
- Look at Butler Bridge clearance for barges and boats to the Siletz tribal mill site development – look at maybe raising the bridge?
- Improve multi-modal commuter options/opportunities
- Create a better relationship with Lincoln County Transit
- Improve entrances to Town at both connections of US 20 and Business Loop 20 – bring people into town who usually just pass on by.
- Downtown parking – enforce the 2 hour limit
- Bike/pedestrian access into town
- Improve the relationship between railroad and City – it is a historic railroad – look into tourist possibilities
- Sturdevant to Butler Bridge to tribal property will increase freight traffic on Sturdevant (This area already has bike/pedestrian deficiencies)
- Truck impacts on roadways – wear and tear on the asphalt
- West Junction also consider aesthetics when looking at improvements
- Make sure that the City is business friendly – support freight and residents
- Add bike path along railroad
- Sidewalks on Business Loop 20 to both junctions of US 20
- Develop waterfront as a resource, explore a water taxi to Newport
- Begin with western junction so something gets done – there's been a lot of planning but not a lot of action on that intersection. Frustration with a known safety issue.
- Mary Harrison/2nd Street is a dangerous intersection

Next Steps

Terra asked the group if the timeframe for this meeting worked well – afternoon on a Tuesday or Thursday. The group agreed that this time worked for those present. Terra suggested sending out a poll with the meeting summary and the PAC follow-up email as members noted that it would be important to make sure that Georgia Pacific, the Railroad, and Lincoln County Transit would be able to attend future meetings. The meeting adjourned at a little after 5:00 p.m.

PAC Meeting 2 Materials

Toledo TSP Project Advisory Committee (PAC) Meeting #2 Agenda

Date: Thursday, October 11, 2012

Time: 1:00 – 3:00 p.m.

Location: Toledo Fire Department 285 NE Burgess Road, Toledo

Meeting Purpose:

- Discuss Goals and Objectives for TSP
- Review the existing and future conditions, provide feedback on findings

Time	Item	Who
1 p.m.	**Welcome and introductions** - Self Introductions - Meeting Agenda - Overview of last meeting	Adam Denlinger
1:15 p.m.	**What do you want to get out of the Transportation System Plan?** <u>Goals</u> - Safety and Security - Aesthetics and Community Livability - Economic Development - Coordination - Transportation Circulation and Mobility - Efficient Multi-modal Transportation System	All
1:30 p.m.	**What is the Existing and Future state of Toledo's Transportation System?** <u>Results from Technical Memo #3</u> - Roads - Transit - Rail - Traffic operations - Safety - Parking - Did we get it right? Is there anything missing?	All

Time	Item	Who
2:45 p.m.	**Project Open House** - Wednesday, November 7, 5:00-7:00 p.m., drop-in format - How to encourage people to come?	All
2:55 p.m.	**Future Meetings, Next Steps, Adjourn**	All

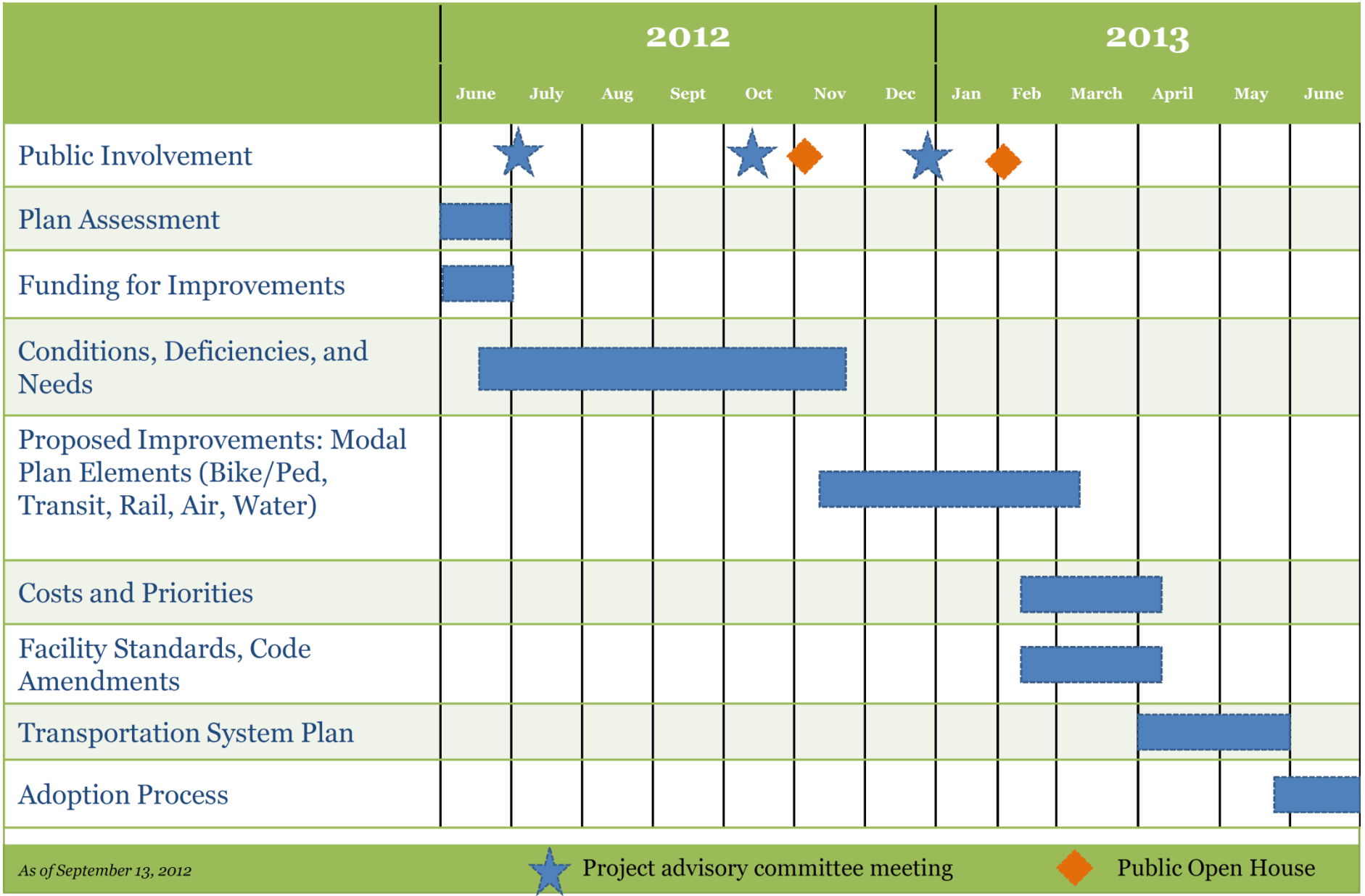
Getting Around Toledo, Oregon

PAC Meeting #2 – 10/11/12

Today's Meeting

- **Welcome, Introductions**
- **Review Project Goals**
- **Existing and Future Transportation System**
  - **Roads**
  - **Transit**
  - **Rail**
  - **Traffic Operations**
  - **Safety**
  - **Parking**
- **Open House**

What is the project schedule?



What are the project goals?

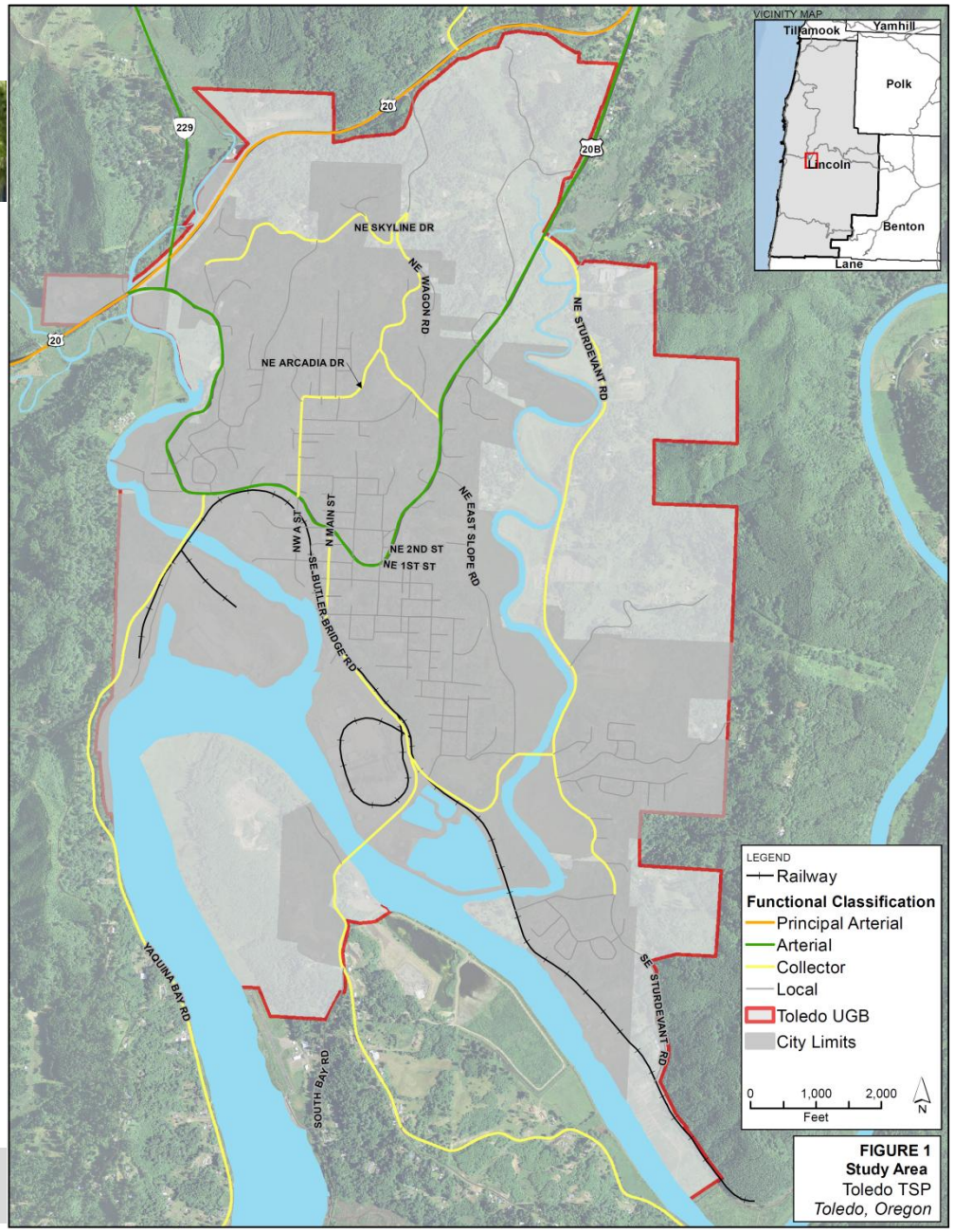
- **Safety and security**
- **Aesthetics and Community Livability**
- **Economic Development**
- **Coordination**
- **Transportation circulation and mobility**
- **Efficient multi-modal transportation system**

Existing and Future Conditions: What we analyzed

- Facilities: Roads, sidewalks, bike lanes/routes, truck routes, rail, port, airport
  - Location, gaps, issues
- Services: Transit, rail, freight
  - Times, issues, gaps
- Characteristics: Safety, operating conditions, parking
  - Crash history, parking analysis, congestion

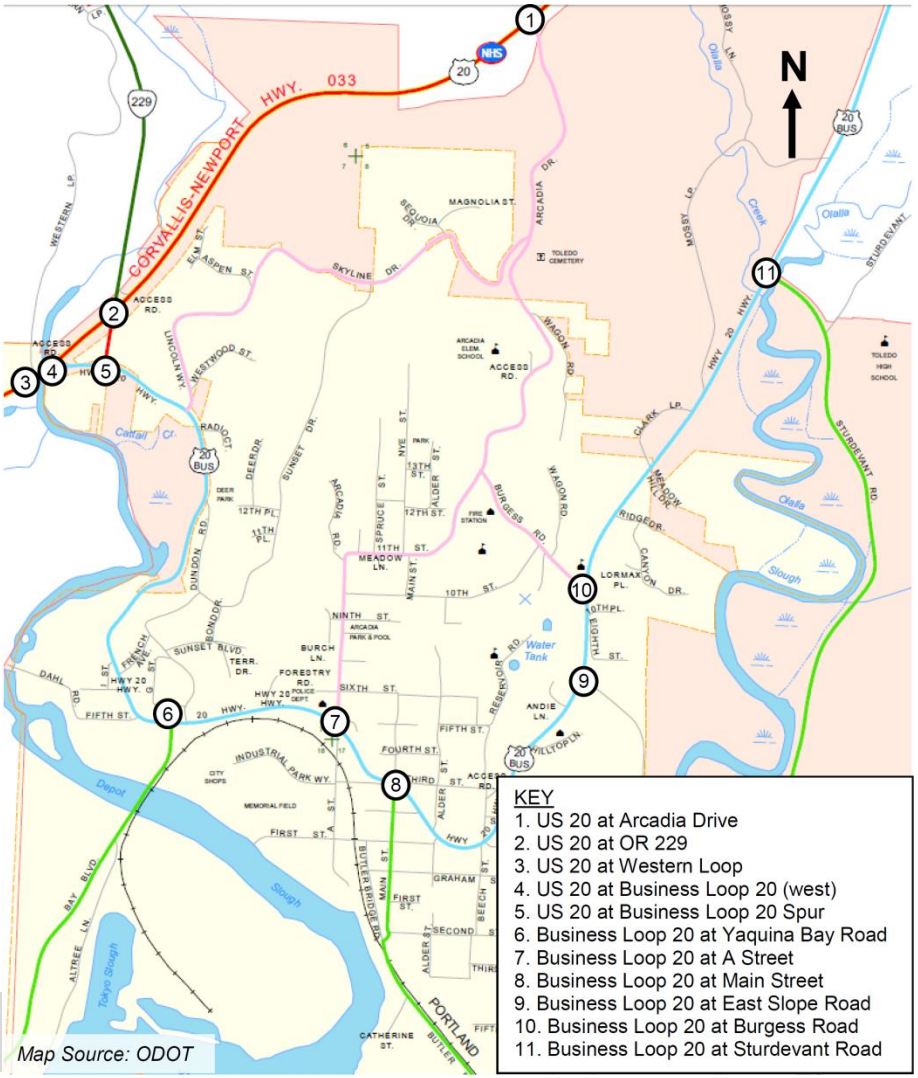
Roadways

- Arterial and Collector roads
- Only consider local roads when looking at potential connections



Study Area Intersections

1. US 20 at Arcadia Drive
2. US 20 at OR 229
3. US 20 at Western Loop
4. US 20 at Business Loop 20 (west)
5. US 20 at Business Loop 20 Spur
6. Business Loop 20 at Yaquina Bay Road
7. Business Loop 20 at A Street
8. Business Loop 20 at Main Street
9. Business Loop 20 at East Slope Road
10. Business Loop 20 at Burgess Road
11. Business Loop 20 at Sturdevant Road



Map Source: ODOT

Analysis – what we studied

- Traffic demand (existing and future)
  - Areas likely to be congested
- Queue analysis
  - Areas where backups can block the next intersection
- Safety analysis
  - Crashes and safety concerns
- Parking availability
  - When the demand for parking exceeds available spaces

Tell us what issues you see

- Facilities: Roads, sidewalks, bike lanes/routes, truck routes, rail, port, airport
  - Location, gaps, issues
- Services: Transit, rail, freight
  - Times, issues, gaps
- Characteristics: Safety, operating conditions, parking
  - Crash history, parking analysis, congestion

Summary of Findings

- Roads –steep and narrow, have limited sidewalks
- Freight – high freight percentage, off-route vehicles
- Land use – generate different and/or conflicting types of traffic
- Traffic generators – generate traffic with different patterns
- Bicycle/pedestrian –sidewalks, one bike route
- Transit – limited service, low ridership
- Freight rail –rough, safety issues, high percentage
- Traffic operations –queues and congestion at
  - US 20 at OR 229,
  - US 20 at Western Loop,
  - US 20 at Business Loop 20 (Western junction)
- Safety – crashes at western junction, one fatality
- Parking – average day few shortages, events days limitations

Upcoming Project Open House

- Wednesday, November 7th, 5:00-7:00 pm, Toledo City Hall
- Drop-in format, tell us what you think
- Help us get the word out

Thank you

- **Next meeting** – December/January, does a Thursday 1-3 pm work best?
- Comments on technical memoranda by **November 7th**

Toledo PAC #2 Comment Matrix
For Inclusion in Technical Memo #3

Map Comment	Mode/TM #3 section	Included in TM #3 (Y/N)
Sturdevant Road Safety Deficiencies: Narrow, Winding, Lack of Shoulders and Sidewalks	Bike/Ped, Freight, Safety	Yes
Lack of Bike/Ped Access on East Slope Road	Bike/Ped, Safety	No
Lack of Town Boat Ramp and parking for boat trailers	Port	No
Lack of urban trail/multi-path system	Bike/Ped	Yes
Yaquina Bay Road Bike Route steep and narrow, lacks sidewalks	Bike/Ped, Safety	Yes
Lack of barge access at Port of Toledo	Port	No
Blind curve on Butler Bridge road south of East Slope Road intersection	Safety	No
Rail crossing at Butler Bridge Road near East Slope Road lacks gates	Rail, Safety	No
Rail crossings at A Street and 1st Street are in poor condition and can cause crashes	Rail, Safety	Yes
Small bridge on Business Loop 20 south of Sturdevant Road obstructs views of drivers waiting to turn from Sturdevant Road	Safety	No
Dangerous intersection at OR 229/Business Loop 20 Spur @ US 20: sightlines difficult, skewed intersection, difficult to proceed straight	Safety	Yes
Queues and sightline issues on Business Loop 20 make turning east from Spur difficult	Traffic Operations, Safety	Yes
Business Loop 20 reduces speed limit too quickly from 50 -> 25 mph east of downtown	Roadway	No
Need for a local transit circulator	Transit	No
Butler Bridge too low for river traffic	Freight	No
Poor rail conditions cause derailments near East Slope Road	Rail, Safety	No
East Slope Road north of SE 10th Street needs improvements to allow collector designation, freight access	Roadway, Freight	No

Lack of pedestrian access on Business Loop 20 outside downtown	Bike/Ped, Safety	Yes
Left turn into Dairy Queen from Business Loop 20 Eastbound hazardous	Safety	No
Need for increased freight access from the west to downtown	Freight	No
ADA access needed across town	Bike/Ped, Safety	No
Difficult to turn in and out of Burgess Road @ Arcadia Drive	Safety	No
Lack of signage to transit stops	Transit	No
Freight truck routes need to be reassessed	Freight	Yes
Need for truck parking north of Toledo along US 20	Freight	No

Project Advisory Committee (PAC) Meeting #2

ATTENDEES:
Michelle Amberg, City of Toledo
Stuart Cowie, Lincoln County
Adam Denlinger, City of Toledo Public Works
Jack Dunaway, City of Toledo City Council
Reza Farhoodi, CH2M Hill
Rick Graff, Port of Toledo
Arlene Inukai, City of Toledo Planning
Julie Kay, Lincoln County Transit
Anne Learned-Ellis, Toledo Planning Commission
Terra Lingley, CH2M HILL
Sumi Malik, CH2M HILL
Stan Marshall, Georgia-Pacific Toledo
Kirk Mitchell, Mitchell Trucking
Jerry Seth, Toledo Planning Commission
Patrick Wingard, DLCD

COPY TO:

PREPARED BY: Reza Farhoodi, CH2M HILL

DATE: October 15, 2012

The City of Toledo Transportation System Plan (TSP) held its second Project Advisory Committee (PAC) meeting on October 11, 2012 from 1:00-3:00 p.m. at the Toledo Fire Department. The purpose of the meeting was to discuss the goals and objectives for the TSP (especially for individuals who had not attended the first PAC meeting) and provide a review of existing and future conditions of the transportation network as described in Technical Memorandum #3. There would also be an opportunity for the PAC to provide feedback on the findings. Handouts of the agenda, PowerPoint presentation, and copies of Memorandum #3 were available along with the meeting sign-in sheet. The meeting began promptly at 1:00 pm and ended slightly after 3:00 pm.

Introduction

Adam Denlinger of City of Toledo introduced the group, reviewed the purpose of the Transportation System Plan, and thanked members for attending, especially individuals who were previously unable to attend representing stakeholders such as Lincoln County Transit and Georgia-Pacific. He provided an overview of the previous PAC meeting and went over the agenda for the PAC Meeting #2. Adam also expressed satisfaction with the TSP planning process and outreach, including the project website, and the level of enthusiasm it was garnering from community members.

Adam explained the TSP process for the benefit of members who had missed the previous meeting, and mentioned that it was funded by an Oregon Department of Transportation (ODOT) grant. He hoped that the members of the PAC would be able to provide insight on pressing transportation issues in Toledo. Adam then initiated an icebreaker to allow members present to introduce themselves while also identifying one improvement to the Toledo transportation network that they would prioritize. This was a good way to get committee members engaged, and the responses given here set the tone for the subsequent breakout discussions. Suggestions included:

- Better connections to the waterfront from downtown
- Improvement/relocation of freight routes away from school zones along Sturdevant Road
- More visible truck route signage
- Improvement of rail crossings for all transportation modes
- Expansion of the sidewalk network to improve pedestrian connections, especially southeast
- Installation of traffic signal at US 20/Business Loop 20 (Western Junction)
- Installation of boat ramp at the Port of Toledo
- Increased access to local transit system

Some members of the PAC could not limit their choices to just one improvement and therefore listed 2-3 improvements that they would make. Adam expressed agreement with many of these sentiments and felt that safe access for all travel modes was the key issue that needed to be addressed.

Transportation System Plan Goals and Objectives

Terra Lingley of CH2M Hill reviewed the TSP goals, noting that the process was an opportunity for community members to establish broad objectives for where they would like to see the Toledo transportation network within the 20-year planning horizon while also identifying and addressing deficiencies and needs in specific locations. She identified the study area as the Toledo Urban Growth Boundary (UGB) and reviewed the project schedule, which included assessments of previous planning efforts and potential funding sources for improvements. Based on the suggestions from this meeting, staff would identify and price potential projects for inclusion in the TSP, with estimated timeline for implementation. These projects would then be brought to the next PAC meeting in December or January for discussion and feedback.

Technical Memo #3: Deficiencies and Needs

Terra identified the main points of analysis for existing conditions. Data was gathered through the City, County, ODOT, stakeholder interviews and a site visit in July 2012. The locations, gaps and issues associated with existing facilities and services were documented: roadways (arterials and collectors), sidewalks, bike routes/lanes, truck routes, transit, railroad, port, and airport. Traffic counts were collected at eleven study area intersections which were then used to create a traffic model for the year 2035 no-build condition. As part of the Deficiencies and Needs Memo, the project team analyzed existing and future traffic operations to determine areas of likely congestion that may lead to traffic queues that block the next intersection. In addition, safety concerns related to crash history or perception of risk were evaluated as well as the availability of parking in Downtown.

She then provided the summary of findings:

- In general, roads were deemed steep and narrow, with a limited sidewalk network generally incompliant with Americans with Disabilities Act (ADA) regulations.
- The bike network was almost nonexistent, with one designated route that features no bicycle lanes as well as steep terrain.
- The network featured a high percentage of freight truck traffic, but the City's designated freight routes were not always utilized and led to trucks frequently getting trapped on residential streets. In addition, the location of two public schools along the main freight route generated conflicting types of traffic.
- Transit service was limited with six round trips a day between Newport and Siletz, and consequently suffered from low ridership.
- The freight railroad only had one roundtrip train daily, with the Georgia Pacific Toledo Pulp & Paper Operations facility being the only customer on the short line. Rail crossings were rough at several occasions, and hampered accessibility for all modes.
- Traffic congestion and queues were observed at US 20 @ OR 229/Business Loop 20 Spur, US 20 @ Western Loop, and US 20 @ Business Loop 20 (Western Junction). There were crashes recorded at the latter intersection in recent years, with one fatality.
- Parking counts revealed low-moderate occupancy rates during an average weekday. However, special events likely caused demand to exceed supply.

Discussion Groups

Terra invited the PAC to split into two groups to discuss transportation needs and deficiencies in Toledo for the next hour and fifteen minutes. Copies of study area maps were provided along with Post-It notes to allow members to mark up the maps. At the end of the session, each group would assign a notetaker and report overall findings, including the four or five issues identified as most important to the groups.

US 20/Business Loop 20/OR 229 (Western Junction)

Within the groups, several common themes emerged. The US 20/Business Loop 20 (western junction)/OR 229 complex garnered most of the attention due to the routine traffic congestion and perceived safety risk at those

locations. Traffic queues on westbound Business Loop 20 waiting to turn west onto US 20 were observed backing up nearly half a mile east towards Dundon Road. This backup could also impact drivers turning east onto Business Loop 20 from the spur. Also, trucks turning into the Dahl's Disposal business west of Western Loop on US 20 frequently impeded traffic in both directions due to the tight turns required to enter the driveway. Several improvements were suggested to help improve traffic operations at the US 20/Business Loop 20 (West) intersection including: a) installing a traffic signal, b) building an interchange, c) building a roundabout, d) modifying the turn lane for eastbound US 20 traffic turning right onto Business Loop 20, and e) removing passing lanes on US 20. Poorly placed signage impede visibility for traffic waiting to turn west on US 20, while the perceived high speed of through traffic on US 20 was also cited as an issue. Some members felt that the prevailing traffic pattern confused drivers unfamiliar with the area and often contribute to congestion and lead to cut-through traffic in the Dairy Queen parking lot or illegal turning movements being made.

Further east on US 20, the OR 229/Business Loop 20 Spur also generated several comments. According to the PAC, the awkward layout of the intersection and sightline issues exacerbated by acute angles increase crash risk for traffic continuing straight across US 20. Some felt that the problem extended beyond this area and that more global changes should be made to US 20 further west of the complex.

Sturdevant Road/General Freight Access

The status of local freight routes also received significant attention, with problems specifically identified along Sturdevant Road, which is the main route for trucks accessing the Georgia-Pacific Toledo facility. This designation often poses conflicts with traffic accessing Toledo Elementary and Junior/Senior High schools. Each of these schools includes a 20 mile per hour (mph) school zone section. The type of traffic seen on this road and the lack of continuous sidewalks or bike lanes prevent students from being able to walk or bike to school. In addition, the road was seen as substandard for freight due to insufficient or nonexistent shoulders and sharp curves. One PAC member wanted to see Sturdevant improved throughout its entire length to enable easier access to industrial land owned by the Siletz Indian Tribe south of 10th Street. Other issues included a lack of visibility looking west onto Business Loop 20 from Sturdevant Road due to a bridge crossing over Olalla Slough.

When speaking generally of freight routes in Toledo, some members thought that the signage could be improved as trucks were still frequently getting trapped on residential streets. Police were periodically fining truck drivers found driving on non-approved streets. Others thought that the truck routes were not well thought out, and that there should be more than two access points to the Georgia-Pacific Toledo facility, which is the largest employer in the City. The mill attracts 150 trucks daily for shipment of pulp and paper products; in addition many logging trucks use the routes as well. One member representing Georgia-Pacific informed the PAC that all trucks were instructed to use Sturdevant Road whether approaching Toledo from Newport, Siletz or Corvallis due to issues with sharp or blind curves on Business Loop 20 west of Downtown. In addition, the right turn onto A Street southbound from Business Loop 20 was described as being difficult for trucks. There was a suggestion that a new truck route should be built bypassing this stretch of Business Loop 20 to facilitate greater access from the west while also relieving truck traffic on Sturdevant Road.

Railroad Crossings

PAC members felt that railroad crossings in Toledo are in poor condition, specifically at A Street and 1st Street along the freight route near the Port. One member representing the Port felt that the problem was especially bad for trucks and vehicles pulling boats. In addition, the crossings could cause bicyclists to crash. The life expectancy of the rail line was questioned, with one PAC member describing the line being in fair condition and maintained for lower speeds. Many members recognized the importance of the railroad in driving the economy and felt that there could be an opportunity for increased coastal freight traffic in the future if improvements were made (Georgia-Pacific is currently the only customer along the line). One member estimated that crossings would cost $150,000 to upgrade and that funding may be difficult to obtain due to lack of coordination between entities (ODOT Rail Division regulates the crossings, while Portland and Western Railroad [PNWR] owns the railroad). There were no members representing either agency at this meeting.

Other crossings are seen as deficient as well: there are currently no crossing gates at the Butler Bridge Road crossing near Timme Lane, while the Butler Bridge Road crossing near Main Street does not have a crossing gate

for southbound Main Street traffic. There had also been reports of train derailments at the Butler Bridge Road (Timme Lane) and East Slope Road crossings near the mill entrance.

Pedestrian/Bicycle Access

Instilling safe connections for active transportation modes was seen as critically important to Toledo's vitality and livability. In general, citywide sidewalk and bike route networks were described as disconnected or nonexistent in neighborhoods outside Downtown. A multi-use path on Sturdevant Road connecting the two schools was seen as a large priority, for the purposes of Safe Routes to Schools and for recreation. An extension of existing trail on East Slope Road further west towards Butler Bridge Road would also facilitate greater connections in south Toledo. Moreover, members of the PAC felt that sections of Burgess Road and Arcadia Drive in north Toledo were lacking continuous sidewalks. Improved connections across Depot Slough on Yaquina Bay Recreational trail opportunities were also described in the Olalla Slough area. Enhanced pedestrian networks were seen as a key component of better integrating the Georgia-Pacific Toledo facility with Downtown (as a place where workers might walk to lunch instead of drive, for example). The PAC also stressed the importance of providing ADA access, including at rail crossings.

The PAC also described bicycle access in Toledo as lacking. Yaquina Bay Road is currently the only designated bicycle route in Toledo but only serves a small portion of the City and is used mostly by weekend recreational cyclists. In addition, the road was identified as being uncomfortable for bike traffic due to lack of dedicated bike lanes and steep grades. Previously, the county had applied for a grant from ODOT to construct a new trail to the east of Yaquina Bay Road, however this application was unsuccessful. There were concerns from the PAC about this path, such as its location along a hillside that may not be stable, or the lack of willingness from PNWR to provide a new rail crossing for the path without requesting that another crossing be vacated by the City.

Other Issues

Additional issues brought up by the committee were related to Port operations, public transit, and airport. The PAC member representing the Port suggested that a boat ramp convenient to Downtown needed to be built to attract out-of-town visitors who now use the boat ramp in Newport. Currently, the closest boat ramp is located near Toledo State Airport outside of the UGB. The boat ramp could provide economic opportunity to Toledo by increasing the amount of money spent at local establishments, including Downtown shops and the Port's boatyard and maintenance facilities. The location of a boat ramp, or parking for vehicles with boat trailers, would need to be determined. The idea of facilitating access for barges at the Port was also introduced as an opportunity to increase economic growth in Toledo. These barges may be used to transport fuel in conjunction with tanker trains operating along the railroad. Tokyo Slough was suggested as a possible location for this facility.

There was not a great deal of discussion in the PAC about public transportation in Toledo. According to one member's anecdotal observation, the station at Olalla Store seemed to be well-used. The member representing Lincoln County Transit did not have ridership data for the Newport-Siletz route but promised to follow up with those figures. She noted that bus shelters had been installed along the route during the past year. One member informed the PAC that the Coast to Valley Express bus route (operated by a consortium of nearby counties between Corvallis and Newport) had recently consolidated its Toledo stop to the Park and Ride lot located at Business Loop 20 and A Street so that both eastbound and westbound trips would stop there after hearing feedback from passengers. Previously, buses in one direction would stop at the Park and Ride, while those in the opposite direction would stop at the Dairy Queen. The distance between these two stops is over a mile along a windy arterial road without continuous sidewalks.

The PAC also discussed the future of airport operations at Toledo State Airport, noting that the state was looking to sell or shut down the airport in the future due to the lack of aviation traffic.

Open House & Next Steps

Terra informed the group of the upcoming project open house on Wednesday, November 7 from 5:00-7:00PM at Toledo City Hall. The open house will be informal and solicit input from the broader community on transportation issues. She asked the PAC to help get the word out to the community, indicating that the City was planning on putting up flyers and sending notices with local utility bills. One member suggested that a press release could be

published in the NewsLincolnCounty online newsletter. Another member offered to publish a press release in the Georgia-Pacific newsletter and post flyers in the company break rooms.

Terra appreciated the suggestions and asked that committee members post flyers in local businesses, email local contact lists, and bring friends to the open house in order to increase turnout. She reminded them to check the project website www.gettingaroundtoledooregon.org for the latest updates to the TSP process. She thanked the committee for their attendance and participation in this meeting and informed them that the next PAC meeting would either be in December or January. She asked if meetings on Thursday afternoons generally worked for everyone, and the consensus was that it did. She also requested comments on Technical Memo #3 by November 7. With that, the meeting was adjourned shortly after 3:00PM.

PAC Meeting 3 Materials

Toledo TSP Project Advisory Committee (PAC) Meeting #3 Agenda

Date: Thursday, February 21, 2013

Time: 3:00 – 5:00 p.m.

Location: Toledo Fire Department 285 NE Burgess Road, Toledo

Meeting Purpose:

- Review and discuss alternatives for all modes to include in the TSP
- Discuss next project Open House

Time	Item	Who
3 p.m.	**Welcome and introductions** - Self Introductions - Meeting Agenda - Overview of last meeting	Adam Denlinger
3:10 p.m.	**Review road alternatives** - Do you agree with the project team recommendations and priorities?	All
3:45 p.m.	**Review bicycle and pedestrian alternatives** - Do you agree with the project team recommendations and priorities?	All
4:15 p.m.	**Review air, water, pipeline, rail, and transit alternatives** - Do you agree with the project team recommendations and priorities?	All
4:35 p.m.	**Project Open House** - March 12, 4-6 pm Toledo City Hall - Help us encourage people to come	Terra Lingley
4:55 p.m.	**Thank you, Next Steps, Adjourn**	All

Getting Around Toledo, Oregon

PAC Meeting #3 – 2/21/13

Presentation Overview

- Review Project Goals
- Road alternatives
  - Costs and priorities
- Bicycle and Pedestrian Alternatives
  - Costs and priorities
- Transit Policies
- Freight Rail Policies
- Air/Pipeline
- Water (Port) Alternatives
  - Costs and priorities

What are the project goals?

- **Safety and security**
- **Aesthetics and Community Livability**
- **Economic Development**
- **Coordination**
- **Transportation circulation and mobility**
- **Efficient multi-modal transportation system**

Road Projects

- Freight Alternatives
  - No recommended changes to the freight route
  - Add more wayfinding signs (including no truck signs)
- Functional Classification
  - A Street (south of Business Loop 20)/1st Street/Butler Bridge Road is a collector
  - Main Street is a local road
- Business Loop 20 at A Street
  - Eastbound right turn lane from Business Loop 20 to A Street
  - Lengthen the turn lane for left turning vehicles on A Street
- Burgess Road Realignment
  - Realign intersection to a 90 degree angle
- Sturdevant Road Realignment
  - South of 10th Street – allow large trucks to Siletz Kiln Site
- Pavement markings at Butler Bridge Road and NW 1st Street
  - Clarify which vehicles have the right-of-way and which vehicles need to stop.

Road Projects

- Western Junction Alternatives
  - No Build
  - Couplet Alternative
  - Interchange Alternative
  - Low-build Alternative
  - Offset T Alternative
  - Roundabout Alternative
  - Traffic Signal Alternative

Western Junction No Build and Couplet Alternatives

No Build Alternative

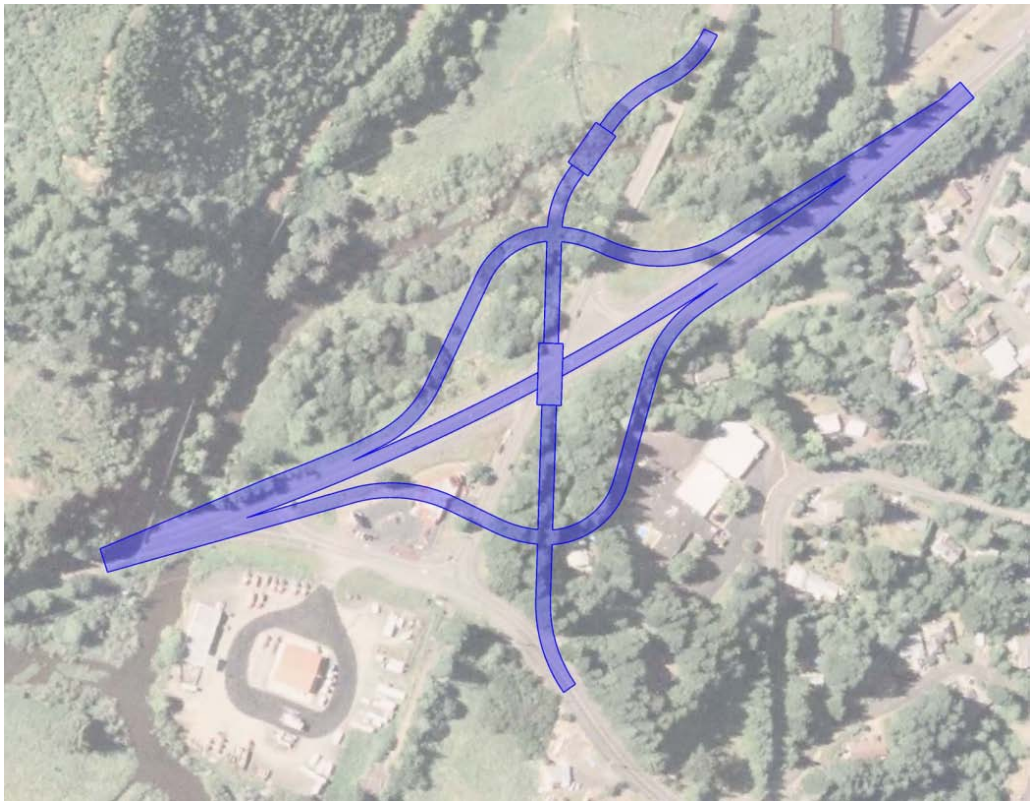
- Only upkeep and maintenance
- No additional cost
- Congestion and safety issues remain

Couplet Alternative

- Uses existing roads
- Congestion and safety issues remain
- Confusing in a rural setting

Western Junction Diamond Interchange Alternative

- Addresses congestion and safety issues
- Expensive
- Could have environmental impacts
- Out of scale with existing US 20



Western Junction Low Build Alternative

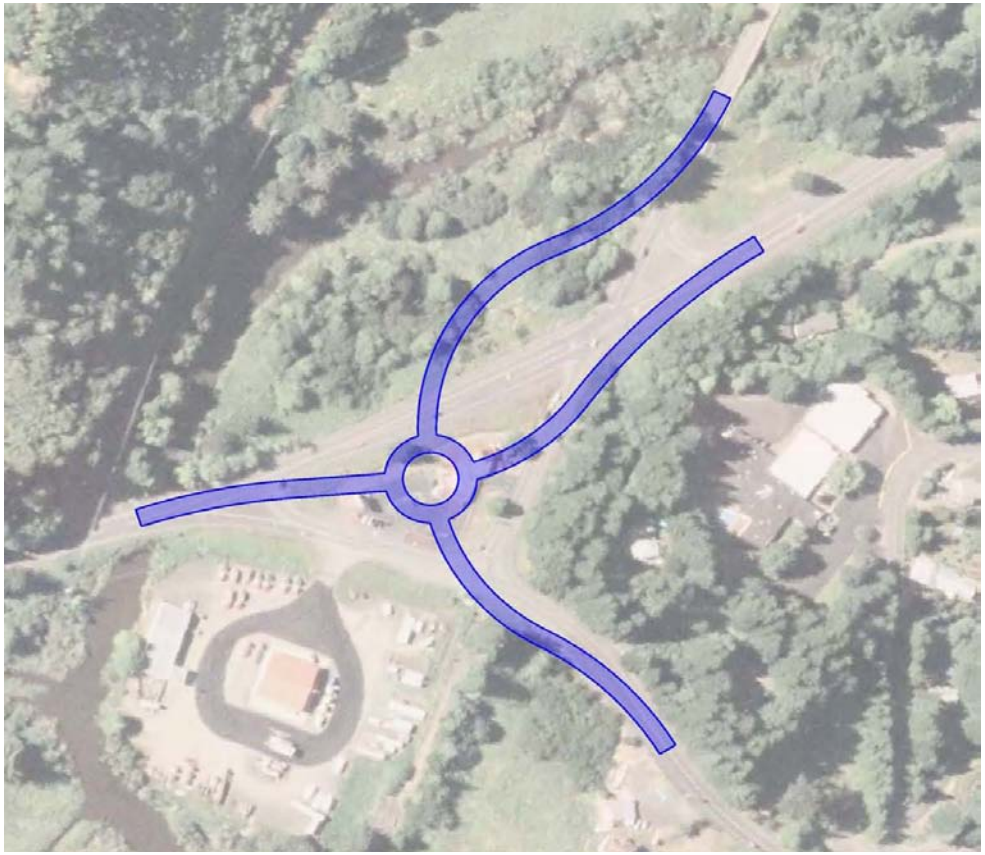
- Lowest cost alternative
- Backups would still happen on Business Loop 20
- Vehicles still cross US 20
- Could be an early phase for a larger project

Western Junction Offset T Intersections Alternative

- Consolidates Western Junction into 2 intersections
- Long queues for left turns from Business Loop 20 towards Newport
- Removes cross traffic from US 20, though left turns across highway remain

Western Junction Roundabout Alternative

- Reduces access points and vehicle conflict points
- Slows traffic on US 20 – impacts to Dairy Queen
- Removes all cross traffic from US 20, reduces severity of potential crashes



Western Junction Traffic Signal Alternative

- Addresses congestion on Business Loop 20 at the Western Junction
- Inconsistent with driver expectation on US 20
- Does not remove cross traffic on US 20 – potential for rear-end crashes and vehicles running the signal.

Project Description	Cost estimate	Priority
Freight Route Signage Improvements – Citywide	$12,000	Short-term
Business Loop 20 -Eastbound Right Turn Pocket at A Street	$449,000	Medium-term
East Slope Road - Improve Vertical Alignment For Freight Access	$635,000	Medium-term
Burgess Road Realignment to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term
Sturdevant Road – Roadway Realignment for Siletz Site Freight Access	$595,000	Long-term
Pavement Markings at Railroad Crossing – Butler Bridge Road and NW 1st Street Intersection	$1,000	Short-term
Western Junction Alternatives		
No Build Alternative	$0 outside of regular maintenance and upkeep	*N/A*
Couplet Alternative	*Did not improve traffic congestion or safety and would be out of character in the rural setting*	
Diamond Interchange Alternative	$9,846,000	Long-term
Low Build Alternative	$2,336,000	Medium-term
Offset T Alternative	*Did not improve traffic congestion or safety*	
Roundabout Alternative	$3,310,000	Long-term
Traffic Signal Alternative	$7,586,000	Long-term

Bicycle/Pedestrian Projects and Policies

- **Fill Sidewalk Gaps**
  - **B/P Project 1:** Burgess Road sidewalk extension to create a continuous sidewalk
  - **B/P Project 2:** Extend the sidewalk on Business Loop 20 from East Slope Road to Sturdevant Road.
  - **B/P Project 3:** Business Loop 20 off-street multi-use path
  - **B/P Project 4:** Douglas Street/SE 3rd Street sidewalks around Community Center
  - **B/P project 5:** East Slope Road Sidewalk from the Park to Butler Bridge Road
- **Crosswalks,** could include signage, markings, and in some cases, flashing lights
  - **B/P Project 6:** High visibility crosswalks at Elementary and Junior/Senior High Schools
  - **B/P Project 7:** Add a crosswalk and signage to the Post Office
  - **B/P Project 8:** Discourage vehicles at the pedestrian railroad crossing at 2nd Street
- **Bicycle Boulevards** are a network of local, neighborhood streets that prioritize active transportation modes
  - **B/P Policy 4:** City to implement bicycle boulevard network on residential streets with wayfinding signage and sharrows

Bicycle/Pedestrian Projects and Policies

- **Trail Network** for both bicyclists and pedestrians:
  - **B/P Policy 2:** Work with regional partners to look into an intercity multi-use trail
  - **B/P Policy 3:** Work with community partners to explore a "volksmarch" route
  - **B/P Project 9:** Construct a trail along Bay Boulevard/Yaquina Bay Road using abandoned rail bed near the Port; City to work with Lincoln County and the Port to create alternatives to addresses safety concerns
  - **B/P Project 10:** Construct a multi-use path and/or boardwalk along Sturdevant Road, east-west connections across Olalla Slough could be included; could be a nature walk
  - **B/P Project 11:** Business Loop 20 multi-use trail or boardwalk facility on the west side of the road; could be a boardwalk over wetlands (near Depot Slough)
- **Wayfinding Signs** can encourage visitors to explore downtown on foot or bike
  - **B/P Policy 1:** Work to develop a pedestrian wayfinding system to encourage visitors to explore Toledo's attractions
  - **B/P Project 12:** Install bicycle wayfinding signs from Bay Boulevard into downtown

Project Description	Cost estimate	Priority
Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term
Business Loop 20 Path (South/West Side) – US 20 to NW 6th Avenue	$2,342,000	Long-term
East Slope Road sidewalk extension	$551,000	Medium-term
Fill Sidewalk Gaps – Burgess Road	$172,000	Medium-term
Fill Sidewalk Gaps – Douglas Street and 3rd Street near the Community Center	$63,000	Medium-term
Multi-Use Path – Sturdevant Road	$4,227,000	Medium-term
Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Medium-term
Pedestrian Advisory Signage – Butler Bridge Road and NW 1st Street Intersection	$37,000	Short-term
Railroad Pedestrian Crossing Improvements to Discourage Automobile Use - Butler Bridge Road at SE 2nd Street	$11,000	Short-term
Pedestrian Advisory signs – Butler Bridge Road and 1st Street intersection	$37,000	Short-term
Bicycle Wayfinding signs – Bay Boulevard	$10,000	Short-term

Transit Policies

- Lincoln County Transit manages transit service. No recommended projects.
- Recommended City policies:
  - **T Policy A:** Maintain partnership to support new investments in transit service and infrastructure; identify new funding sources
  - **T Policy B:** Work with Toledo Chamber of Commerce/others to explore citywide transit shuttle or circulator
  - **T Policy C:** Identify local and regional partners to explore a water taxi or ferry service to Newport

Freight Rail Policies

- The rails are owned by Portland and Western Railroad (PNWR). No recommended projects.
- Recommended City policies:
  - **FR Policy A:** Coordinate meetings with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to address crossing conditions
  - **FR Policy B:** City to develop evaluation criteria (to prioritize public crossing investments) and generate an improvement list (in order of greatest importance)
  - **FR Policy C:** City to work with ODOT Rail and the Federal Railroad Administration to explore a "Quiet Zone" in Downtown
  - **FR Policy D:** City to pursue proposed intermodal hub at Tokyo Slough with the Port of Toledo, to add potential freight rail customers

Airport/Pipeline

- Airport
  - There are no changes expected to the airport, with the possible exception of its sale and potential closure.

- Pipeline
  - There are no plans or need to expand the gas pipeline into Toledo within the 20 year planning horizon of the TSP.

Water/Port Projects and Policies

- The Port's *Boatyard Buildout Plan*, includes:
  - **W/P Project 1:** Construction of a travel lift at the Sturgeon Bend boatyard facility
  - **W/P Project 2:** Developing sandblasting and painting operations within an airtight, climate-controlled facility for the boatyard
  - **W/P Project 3:** Investigating the Tokyo Slough Intermodal Hub, to leverage the existing barge dock and the nearby PNWR line
- Create barge access (along the Yaquina River) to industrial site.
  - **W/P Policy A:** Conduct a bridge life cycle assessment and explore the cost of rebuilding/ altering the Butler Bridge to accommodate taller barges and boats

Project Description	Cost Estimate	Priority
Phase 1 projects – New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift	$3,493,000	Short-Term
Phase 2 projects – upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas	$950,000	Medium-Term
Phase 3 projects – construct vessel work building, new boatyard office and restrooms	$2,050,000	Long-Term

Zoning and Truck Routes

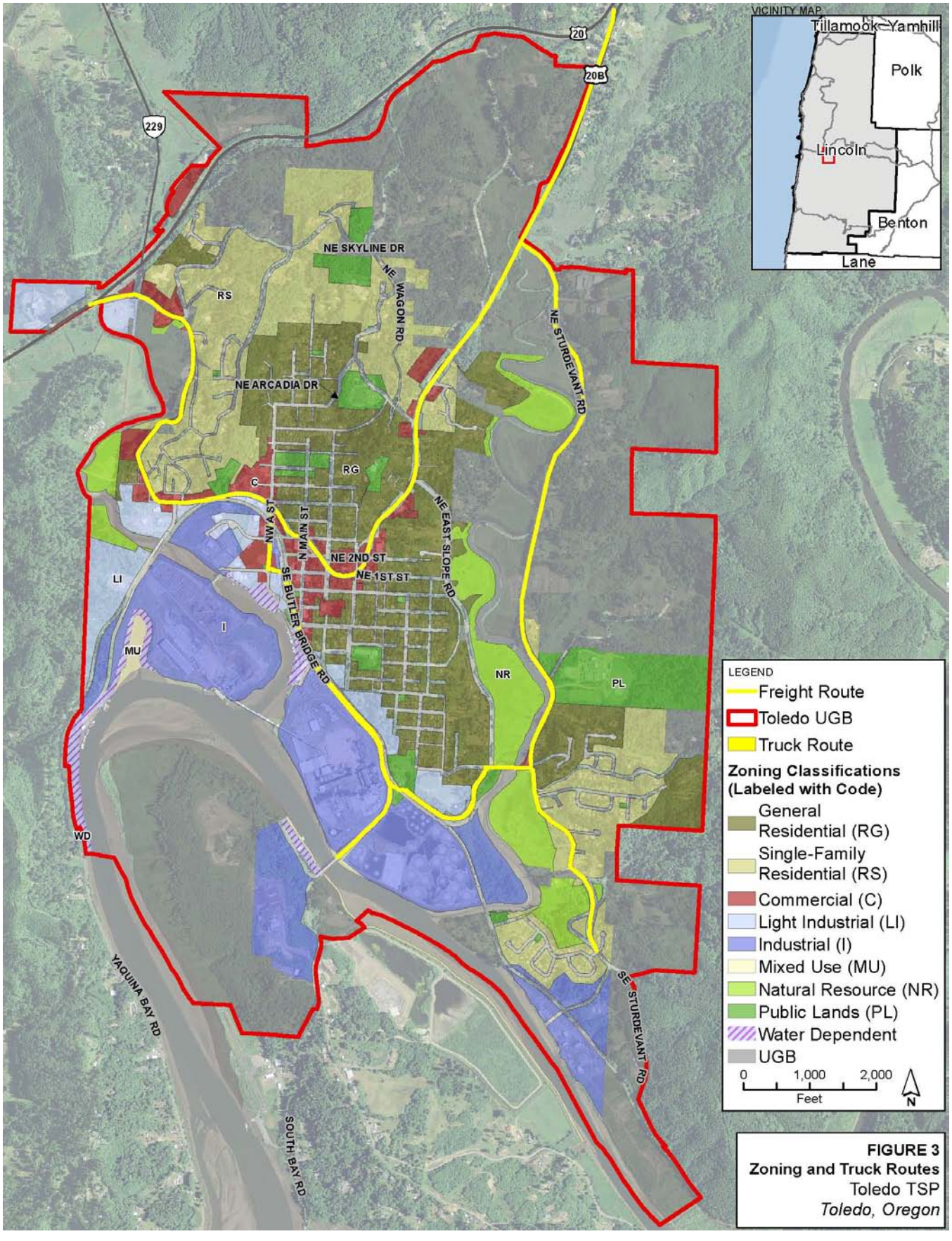


FIGURE 3
Zoning and Truck Routes
Toledo TSP
Toledo, Oregon

Bike and Pedestrian Alternatives

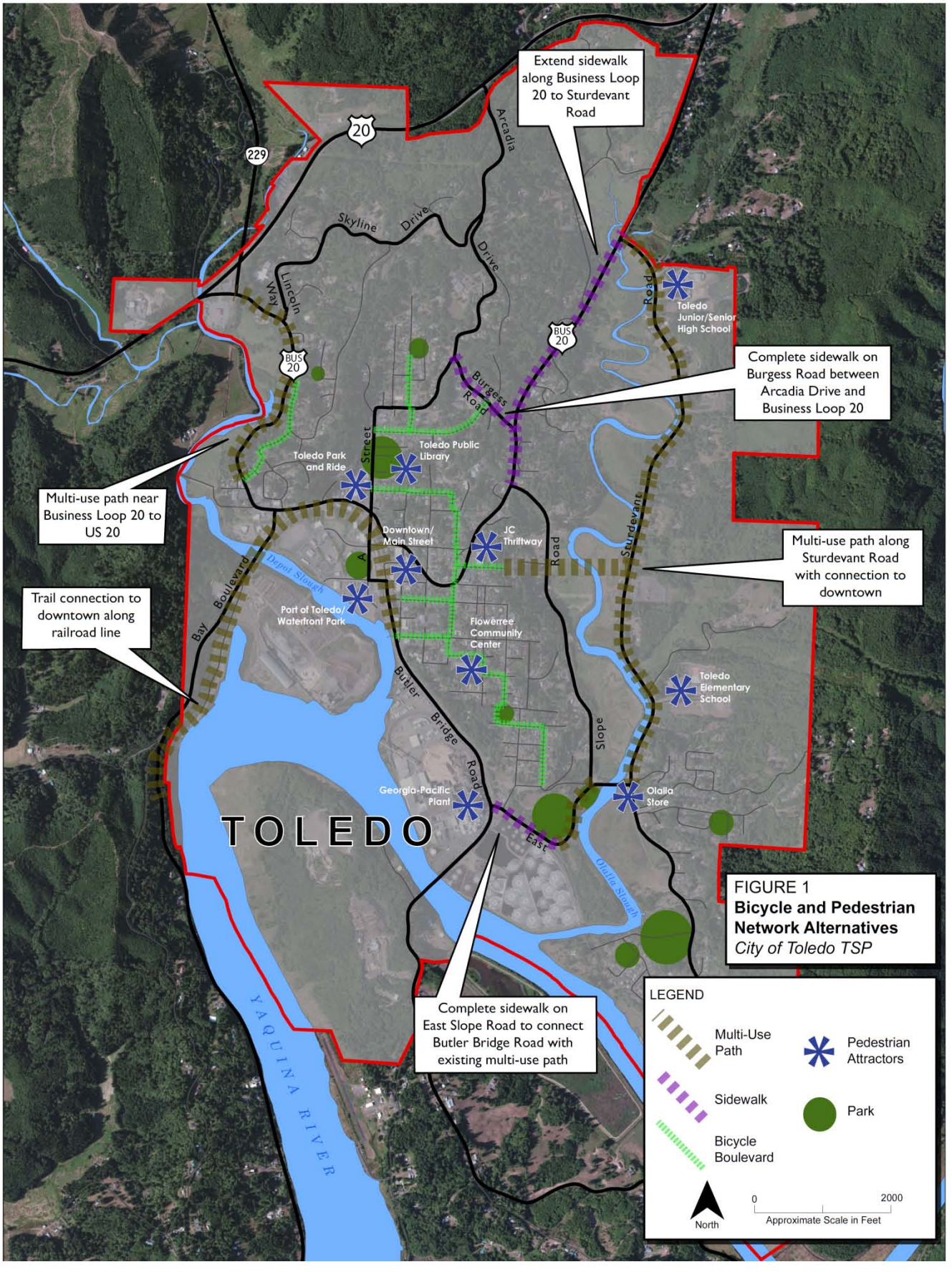


FIGURE 1
Bicycle and Pedestrian Network Alternatives
City of Toledo TSP

Which 5 road projects should move forward first?

Road Projects	Put your dot stickers
R Project 1: Citywide freight sign improvements	
R Project 2: Western Junction No Build	
R Project 3: Western Junction Couplet Alternative	
R Project 4: Western Junction Interchange Alternative	
R Project 5: Western Junction Low Build Alternative	
R Project 6: Western Junction Offset T Alternative	
R Project 7: Western Junction Roundabout Alternative	
R Project 8: Western Junction Traffic Signal Alternative	
R Project 9: Business Loop 20/A Street turn pocket	
R Project 10: Improve vertical curves on East Slope Road for freight	
R Project 11: Burgess Road Realignment at Business Loop 20	
R Project 12: Sturdevant realignment for Siletz Site access	
R Project 13: Pavement markings at Butler Bridge Road and NW 1st Street	

Which 5 bicycle and pedestrian projects should move forward first?

Bicycle/Pedestrian Projects	Put your dot stickers
B/P Project 1: Burgess Road sidewalk extension	
B/P Project 2: Business Loop 20 sidewalk between East Slope Road and Sturdevant Road	
B/P Project 3: Community Center sidewalks	
B/P Project 4: East Slope Road Sidewalk from Park to Butler Bridge Road	
B/P Project 5: High visibility school crosswalks	
B/P Project 6: Post Office crosswalk/signage	
B/P Project 7: Discourage vehicles at the pedestrian railroad crossing at 2nd Street	
B/P Project 8: Bay Boulevard/Yaquina Bay Road bike path	
B/P Project 9: Sturdevant Road path/boardwalk	
B/P Project 10: Business Loop 20 trail/boardwalk	
B/P Project 11: Bicycle wayfinding signs	

Fact Sheet: Road Network Improvements

Potential policies, projects, and other measures for the Toledo TSP (transportation system plan), which can help address deficiencies and needs already identified, are shown below. These ideas are a starting point for a larger discussion.

Freight Alternatives

There are no recommended changes to the freight route network in Toledo. Freight projects include:

- Add more wayfinding signs (including no truck signs) before critical turns on the truck route

Functional Classification

The project team recommends changing/smoothing the classification of a few streets within Toledo:

- A Street (south of Business Loop 20)/1st Street/Butler Bridge Road as a collector
- Lincoln Way as a collector
- Main Street as a local road
- East Slope Road (north of SE 10th Street to Business Loop 20) as a collector

Intersection Alternatives

Western Junction

- **No Build –** do nothing, except for regular upkeep and maintenance
  - No additional cost
  - Congestion and traffic backup would remain
  - Current safety issues would remain
- **Couplet Alternative –** create a one-way couplet with Western Loop as a northbound road and OR 229 as a southbound road
  - Would use existing roads
  - Would not address safety, is confusing in a rural setting, and would not help congestion
- **Interchange Alternative**– create a diamond interchange – elevate OR 229 over US 20, with ramps onto and off of US 20.
  - Would address congestion and safety issues
  - Would be expensive to build and could have environmental impacts
  - Would be out of scale with existing feel of US 20
- **Low-Build Alternative –**would add an acceleration lane for left turning vehicles onto US 20 from Business Loop 20 and extend the turn lane for right turning vehicles from US 20 to Business Loop 20. Would add a median on US 20 between eastbound and westbound traffic.
  - Lowest cost alternative, would slightly improve vehicle backups on Business Loop 20 and US 20
  - Backups would still occur on Business Loop 20
  - Would not reduce the number of vehicles crossing US 20 – drivers may take more risks turning onto US 20
  - Could be an early phase to a longer-term project alternative

- **Offset T Intersections Alternative –** would consolidate Western Junction into two T intersections, creating turn pockets where the side streets meet US 20
    - Would consolidate access points on US 20 and decrease vehicle conflicts – would improve congestion and backups at US 20 and OR 229
    - Left turns onto US 20 from Business Loop 20 would back up into Toledo, as all traffic turning into Toledo from westbound US 20 would turn left at that intersection – left turns from US 20 onto Business Loop 20 would have priority over left turns onto US 20 towards Newport
    - Would remove cross traffic from US 20, but would keep left turns from the side streets
- **Roundabout Alternative** – would create a two-lane roundabout. Would require realignment of side streets onto US 20
    - Would reduce access points and reduce vehicle conflict points, and improve congestion on Business Loop 20
    - Would slow traffic on US 20, would impact the Dairy Queen
    - Would remove all cross traffic from US 20, and reduce the severity of potential crashes
- **Traffic Signal Alternative –** would consolidate all of the roads into one intersection with a traffic signal
    - Would address congestion at Western Junction with shorter vehicle backups
    - Would not be consistent with driver expectation on a rural highway, would impact Dairy Queen
    - Would not remove cross traffic from US 20, potential for vehicles to run the traffic signal and increased rear-end crashes from traffic stopped at the signal

Business Loop 20 at A Street

This alternative would add an eastbound right turn lane from Business Loop 20 right onto A Street at the traffic signal for vehicles coming from the Western Junction. It would also lengthen the turn lane for vehicles turning left onto A Street from Business Loop 20 to provide more space for the left turning vehicles to move out of the through lane.

- Would improve traffic congestion and vehicle backups

Burgess Road Realignment at Business Loop 20

Realign Burgess Road at Business Loop 20 to a 90 degree angle to improve vehicle sight distance.

- Would affect nearby properties, would require earthwork, and is relatively expensive to construct

Sturdevant Road Realignment

Would reduce the curves and add shoulders on Sturdevant Road south of SE 10th Street to the Siletz Kiln Site.

- Would allow larger trucks to access the kiln site to move materials and finished products into and out of the site

Pavement Markings at Butler Bridge Road and NW 1st Street Intersection

Would add pavement striping to clarify which vehicles have the right-of-way, and which vehicles need to stop, and where.

Street Standards

Street standards will be included in the TSP to provide guidance for developers and the City when constructing new road or reconstructing existing roads. There are different standards for each roadway classification, though all roads have sidewalks, and every road but a local road has bicycle lanes.

Fact Sheet: Bike and Pedestrian Systems

Potential policies, projects, and other measures for the Toledo TSP (transportation system plan), which can help address deficiencies and needs already identified, are shown below. These ideas are a starting point for a larger discussion.

Fill Sidewalk Gaps

Filling the sidewalks gaps would improve the pedestrian network and enhance access to important destinations:

- **Project 1: Burgess Road** (from Arcadia Drive to Business Loop 20) sidewalk extension would connect to marked pedestrian crossings on both Arcadia Drive and Business Loop 20.
- **Project 2: Business Loop 20** (from East Slope Road to Sturdevant Road) sidewalk extension on the east side past East Slope Road to Toledo Elementary and Junior/Senior High Schools.
- **Project 3: Douglas Street/SE 3rd Street** sidewalks on Beech, Douglas, SE 3rd, and SE 4th Streets to connect to the Flowerree Community Center.
- **Project 4: East Slope Road Sidewalk** add sidewalk connecting the end of the East Slope Road trail to Bulter Bridge Road.

Bicycle Boulevards

Bicycle boulevards are generally a network of local, neighborhood streets that prioritize active transportation modes; ranging in cost and levels of impact to behavior. A basic bicycle boulevard network with lower cost elements is recommended along Main, Alder, or Beech Streets (N-S connection), as well as on Graham or SE 2nd Streets (E-W connection) and on Dundon Road and Sunset Drive (alternate to Business Loop 20).

- **Policy 4:** The City will implement a bicycle boulevard network on local residential streets with wayfinding signage and sharrows to facilitate connections to local destinations.

Crosswalks

The project team recommends adding specific crosswalk improvements to help increase pedestrian visibility and safety. These alternatives could include advisory and warning signage, crosswalk markings, and in some cases, flashing lights.

- **Project 5:** Add high visibility crosswalks at the entrance to Toledo Elementary and Junior/Senior High Schools *(built with Project 10 below).*
- **Project 6:** Add a crosswalk and signage to the Post Office at Butler Bridge Road and NW 1st Street.
- **Project 7:** Discourage vehicles from using the pedestrian railroad crossing at 2nd Street and Butler Bridge Road

Trail Network

These trail alternatives would accommodate both bicyclists and pedestrians:

- **Policy 2:** Toledo will work with regional partners, including the Cities of Corvallis, Philomath, and Newport; Lincoln County; Benton County; and ODOT; to determine the feasibility of building an intercity multi-use trail.
- **Policy 3:** The City will work with community partners to explore the possibility of instituting a volksmarch route in Toledo for programming events.

  Volksmarching is a form of personal, non-competitive, fitness walking that originated in Germany and has a popular following in the United States. Volksmarch events allow people to participate at their own pace, and typically occur on specific length outdoor paths and trails. It can also be a tourist draw, as volksmarchers visit different routes and keep a log of their walks. A volksmarch route could use proposed or existing paths.
- **Project 8: Construct a trail along Bay Boulevard/Yaquina Bay Road** to bypass the steep and narrow section of Bay Boulevard. The trail would use the nearby abandoned rail bed, traveling through the Port of Toledo's

boatyard facility then along Altree Lane to a nearby railroad crossing before rejoining with Bay Boulevard. There are safety concerns with having bicyclists and pedestrians pass through the active boatyard. The project team recommends that the City work with Lincoln County and Port of Toledo to consider alternatives to the proposed trail that does not impact boatyard operations and addresses the safety concerns with the existing proposed route.

- **Project 9: Construct a multi-use trail along Sturdevant Road** between downtown and the Toledo Elementary and Junior/High Schools. A multi-use path and/or boardwalk along the west side of Sturdevant Road, with areas with limited space along the road (Olalla Slough) built as boardwalks. The trail would include connections to Sturdevant Road, including marked crosswalks with signage and lights *(Project 5)* at the local schools. East-west connections across Olalla Slough could be included to allow access between Sturdevant Road and downtown. The trail could be designed as a nature walk with interpretive signs and displays to educate users about the wildlife and habitat of the Olalla Slough.
- **Project 10: Business Loop 20 Trail** (between NW 6th Street and US 20) would create a separate multi-use trail or boardwalk facility on the west side of the road, since there is not room for a sidewalk. The trail would be a boardwalk over wetlands (near Depot Slough).

Wayfinding Signs

Wayfinding signs can encourage visitors to explore downtown on foot or bike, by providing location information and distances to destinations and recreational trails; can include design elements to reinforce the sense of place in downtown.

- **Policy 1:** The City will work to develop a pedestrian wayfinding system that encourages visitors to explore Toledo and provides directions to local attractions.
- **Project 11:** Install bicycle wayfinding signs from Bay Boulevard into downtown at the intersection of Business Loop 20 and Bay Boulevard.

Fact Sheet: Air, Pipeline, Port/Water, Rail, and Transit Systems

Potential policies, projects, and other measures for the Toledo TSP (transportation system plan), which can help address deficiencies and needs already identified, are shown below. These ideas are a starting point for a larger discussion.

Air

There are no changes expected to the airport, with the possible exception of its sale and potential closure.

Pipeline

There are no plans or need to expand the gas pipeline into Toledo within the 20 year planning horizon of the TSP.

Port/Water

- The Port's *Boatyard Buildout Plan*, includes construction of a travel lift at the Sturgeon Bend boatyard facility; to lift boats up to 300 tons, allowing the Port to work on 98% of West Coast and Alaskan fishing vessels.
- The Port's *Boatyard Buildout Plan*, includes developing sandblasting and painting operations within an airtight, climate-controlled facility for the boatyard.
- The Port's *Boatyard Buildout Plan*, suggests that the Tokyo Slough Intermodal Hub would leverage the existing barge dock and the PNWR line that terminates near the slough. The intermodal hub project includes: expanding the existing rail spur 600 feet; expanding the port access road; paving a staging area for cargo loading/unloading; and building a 9,800 square foot warehouse.
- Create barge access (along the Yaquina River) to industrial site. Conduct a bridge life cycle assessment and explore the cost of rebuilding/ altering the Butler Bridge to accommodate taller barges and boats.
- *Public boat ramp near Downtown, within the City limits, as a way to bring more visitors into Toledo. However, the project team does not recommend including a boat ramp in the TSP due to costs and feasibility concerns.*

Rail

The rails are owned by Portland and Western Railroad (PNWR). Recommended City policies include:

Policy 1: The City will coordinate regular meetings with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to work together to address the conditions of the crossings.

Policy 2: The City will develop evaluation criteria to prioritize public crossing investments and generate a list of improvements in order of greatest importance.

Policy 3: The City will work with ODOT Rail and the Federal Railroad Administration to explore instituting a "Quiet Zone" in Downtown Toledo to reduce noise pollution from passing trains.

Policy 4: The City will continue to pursue the proposed intermodal hub at Tokyo Slough with the Port of Toledo to add potential freight rail customers. This project is described in more detail in the Water section below.

Transit

Lincoln County Transit manages transit service. Recommended City policies include:

Policy 1: Maintain the existing partnership with Lincoln County Transit to support new investments in transit service and infrastructure, as well as identify potential new funding sources to implement these improvements.

Policy 2: Work with the Toledo Chamber of Commerce or other organizations to explore the possibility of a citywide transit shuttle or circulator for local service.

Policy 3: Identify local and regional partners to explore the feasibility of a water taxi or ferry service to Newport.

Fact Sheet: Costs and Priorities

Costs, priorities, and champions for project alternatives for the Toledo TSP (transportation system plan), which can help address deficiencies and needs already identified, are shown below. These ideas are a starting point for a larger discussion.

There are no project alternatives for Transit, rail, airport, or pipelines in Toledo. Alternatives are broken down by Road, Bicycle and Pedestrian, and Port projects.

Road Alternatives

Project Description	Cost Estimate (in 2012 Dollars)	Priority	Champion
Freight Route Signage Improvements – Citywide	$12,000	Short-term	City
Western Junction Alternatives– S 20/Business Loop 20/OR 229			
No Build Alternative	$0 outside of regular maintenance and upkeep	N/A	N/A
Couplet Alternative - The project team did not identify cost estimates, priority, and champions for this alternative because this alternative did not improve traffic congestion or safety and the alternative would be out of character in the rural setting			
Diamond Interchange Alternative	$9,846,000	Long-term	ODOT, City
Low Build Alternative	$2,336,000	Medium-term	ODOT, City
Offset T Alternative - The project team did not identify cost estimates, priority, and champions for this alternative because this alternative did not improve traffic congestion or safety at the Western Junction.			
Roundabout Alternative	$3,310,000	Long-term	ODOT, City
Traffic Signal Alternative	$7,586,000	Long-term	ODOT, City
Business Loop 20 -Eastbound Right Turn Pocket at A Street	$449,000	Medium-term	City
East Slope Road - Improve Vertical Alignment For Freight Access	$635,000	Medium-term	City
Burgess Road Realignment to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term	City
Sturdevant Road – Roadway Realignment for Siletz Site Freight Access	$595,000	Long-term	County, City, Siletz Tribe
Pavement Markings at Railroad Crossing – Butler Bridge Road and NW 1st Street Intersection	$1,000	Short-term	City

Bicycle and Pedestrian Alternatives

Project Description	Cost Estimate(in 2012 Dollars)	Priority	Champion
Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term	City, School District
Business Loop 20 Path (South/West Side) – US 20 to NW 6th Avenue	$2,675,000	Long-term	City
East Slope Road sidewalk extension	$551,000	Medium-term	City
Fill Sidewalk Gaps – Burgess Road	$172,000	Medium-term	City
Fill Sidewalk Gaps – Douglas Street and 3rd Street near the Community Center	$63,000	Medium-term	City
Multi-Use Path – Sturdevant Road	$4,227,000	Medium-term	City, County, School District
Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Medium-term	City, County, School District
Pedestrian Advisory Signage – Butler Bridge Road and NW 1st Street Intersection	$37,000	Short-term	City
Railroad Pedestrian Crossing Improvements to Discourage Automobile Use -Butler Bridge Road at SE 2nd Street	$11,000	Short-term	City
Bay Boulevard/Yaquina Bay Road multi-must trail	Cost from Lincoln County's grant application	Long-term	City, County
Pedestrian Advisory signs at Butler Bridge Road and 1st Street intersection	$37,000	Short-term	City
Bay Boulevard Bicycle Wayfinding signs	$10,000	Short-term	City

Port Alternatives

Project Description	Cost Estimate(in 2012 Dollars)	Priority	Champion
Phase 1 projects – New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift	$3,493,000	Short-Term	Port
Phase 2 projects – upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas	$950,000	Medium-Term	Port
Phase 3 projects – construct vessel work building, new boatyard office and restrooms	$2,050,000	Long-Term	Port, City

Project Advisory Committee (PAC) Meeting #3

ATTENDEES:

Stuart Cowie, Lincoln County
Adam Denlinger, City of Toledo
Jack Dunaway, Toledo City Council
Anne Ellis, Toledo Planning Commission
Reza Farhoodi, CH2M HILL
Valerie Grigg Devis, ODOT
David Helton, ODOT
Arlene Inukai, City of Toledo
Terra Lingley, CH2M HILL
Penny Ryerson, Port of Toledo
Jerry Seth, Toledo Planning Commission
Bud Shoemake, Port of Toledo

PREPARED BY: Reza Farhoodi, CH2 HILL

DATE: March 5, 2013

The City of Toledo Transportation System Plan (TSP) held its third Project Advisory Committee (PAC) meeting on February 21, 2012 from 3:00-5:00 p.m. at the Toledo Fire Department. The purpose of the meeting was to discuss the recommend projects and policies, including cost estimates, for the roadway, bicycle/pedestrian, transit, freight, rail, air, water, and pipeline networks in Toledo as described in Technical Memoranda #4 - #8. The PAC reviewed information and had the opportunity to provide feedback on the findings. Handouts of the agenda and fact sheets summarizing the Technical Memoranda #4 – #8 were available along with the meeting sign-in sheet. The meeting began around 3:10 pm and ended around 5:15 pm.

Introduction

Stuart Cowie of Lincoln County began the meeting by announcing he was leaving Lincoln County to take a position at Douglas County. He introduced the group and thanked the PAC for participating in the TSP process as well as the project team for their work.

Terra Lingley provided an overview of the previous PAC meeting, including the TSP goals that were identified by the PAC. She started the discussion about projects and programs by describing how suggestions from stakeholders and the local community helped develop the project alternatives and policies. She asked for PAC feedback on the recommendations, project prioritization, and other recommendations for projects and policies to include in the TSP. The projects and policies were broken down by transportation mode, starting with road projects.

Road Projects

Terra reviewed the list of alternative projects, which included freight route signage, changes to the functional classification map, and various infrastructure improvements around Toledo.

Bud Shoemake from the Port suggested a project improving access from southbound Bay Boulevard onto Altree Lane towards the mill chip site. The project could include a new left turn lane and widening Altree Lane at the private railroad crossing to accommodate truck traffic.

Western Junction

The group then discussed the Western Junction, which was identified as having both safety concerns and traffic congestion in the existing and future conditions report.

Terra walked through each of the alternatives: No-Build, Couplet, Diamond Interchange, Low-Build, Offset-T Junction, Roundabout, and Traffic Signal. All alternatives include closing Western Loop at US 20 to reduce confusion at the Western Junction. The existing traffic counts show very few vehicles use Western Loop.

Discussion of each of the alternatives is included below.

Low-Build Alternative

- David Helton commented that a new median could impact access to Dahl's Disposal on the north side of US 20 – that driveway may need to be modified or moved, depending on design.
- Stuart asked if the right turn lane for eastbound US 20 traffic going to Toledo would be separated from through traffic by a concrete median – the design currently does not include a median.
- Adam Denlinger was concerned that this option is expensive because of the need to widen US 20. He also suggested that improvements that slow through traffic along US 20 would address safety concerns.
- To slow traffic on US 20, Anne Ellis suggested rumble strips similar to what is currently on US 20 near Eddyville. Bud suggested speed bumps or other physical changes to slow traffic.

Offset-T Alternative

- David noted a positive impact from this alternative, as it would reduce visibility problems for vehicles turning left from US 20 to go either northbound on OR 229 or southbound on Business Loop 20 spur currently turning vehicles can reduce sight distance when they are waiting in the turn lane.
- There were concerns about possible wetland impacts since the OR 229 north would be moved to create a 90 degree intersection.

Roundabout Alternative

- Adam asked if the footprint of this alternative was to scale. It looks small on the figure. He also had concerns with traffic speeds approaching the roundabout on US 20. The placement of the roundabout could also have impacts to the Dairy Queen. Roundabout designs restrict driveways near the connecting roads for safety, which could impact residents and businesses near the intersection.
- Valerie Grigg Devis mentioned that drivers would not expect a roundabout along a rural highway, and there would need to be an educational program to ensure drivers know how to use the roundabout.
- For some drivers, a roundabout could be confusing and would impact truck traffic. Valerie noted that all approved roundabouts have truck turning radiuses in mind, and the freight community would be engaged during the decision-making process and design.
- David also mentioned that ODOT's new Roundabout policy requires further study and freight community engagement, and that he has engaged ODOT's freight policy staff to review Technical Memo #4. A roundabout could be constructed to accommodate through trucks on US 20, but there are likely safety concerns – in a two-lane roundabout, trucks are likely to take up both lanes, creating safety concerns for vehicles.

Traffic Signal Alternative

- David asked if it was necessary to create a 90 degree intersection with the signal alternative. He also suggested adding a hybrid alternative using signalized offset T-intersections to avoid impacting the Dairy Queen.
- Stuart suggested keeping the existing legs on the west side of the intersection and signalizing the US 20/OR 229 intersection.

Costs

Terra then presented a slide on preliminary costs for the roadway projects. The cost estimates are planning level, rounded to the nearest $1,000, and no right-of-way or property acquisitions costs are included. The project team did not develop cost estimates for the Couplet and Offset T Alternatives because the project team does not recommend moving these alternatives forward into the TSP.

PAC members provided the following additional comments:

- Jack Dunaway asked why the Western Junction Traffic Signal option was so expensive. The high cost is due to widening US 20 to four lanes (two in each direction) east of the intersection to the existing four lane cross section. US 20 would need to have a consistent four lane cross section from Arcadia Drive west to the Western Junction.
- Stuart asked how much acquiring the Dairy Queen property would add to the cost estimates. Costs for the Dairy Queen would be dependent on a number of factors: if the business could be relocated, or if ODOT

would need to purchase both the land and the business. With the business, it could reach around $2 million because of the lack of comparable relocation possibilities with the same visibility along the highway. ODOT would prefer to negotiate a settlement, but property appraisals and/or eminent domain may be necessary if an alternative that impacts the Dairy Queen is chosen.

Road Priorities

Road Dot Exercise Results

After the road alternative discussion, PAC members were given 5 dot stickers to put on a board to indicate the projects they thought should be completed first. The alternatives with the most stickers were pavement markings at Butler Bridge Road and NW 1st Street, followed by citywide freight sign improvements and reducing vertical curves on East Slope Road.

Road Prioritization Dot Exercise

Project Number	Project Description	Number of Stickers
R Project 1	Citywide Freight Sign Improvements	7
R Project 2	Western Junction No-Build	0
R Project 3	Western Junction Couplet Alternative	0
R Project 4	Western Junction Interchange Alternative	5
R Project 5	Western Junction Low Build Alternative	5
R Project 6	Western Junction Offset-T Alternative	0
R Project 7	Western Junction Roundabout Alternative	0
R Project 8	Western Junction Traffic Signal Alternative	2
R Project 9	Business Loop 20/A Street Turn Pocket	1
R Project 10	Improve Vertical Curves on East Slope Road for Freight	7
R Project 11	Burgess Road Realignment at Business Loop 20	2
R Project 12	Sturdevant Realignment for Siletz Site Access	1
R Project 13	Pavement Markings at Butler Bridge Road and NW 1st Street	8

Bicycle/Pedestrian Projects and Policies

Terra walked through the bicycle/pedestrian projects and policies and then provided cost estimates for the projects. Projects and policies included filling sidewalk gaps, crosswalks, multi-use path and trail projects, and wayfinding sign projects.

Bicycle/Pedestrian Comments

The PAC added the following comments:

- Penny had concerns about pedestrian safety during nighttime and poor weather conditions, and noted that the sidewalk on Business Loop 20 to Sturdevant Road was a priority.
- David noted that while the TSP focuses on capital improvements, the City may want to include policies supporting educational programs to encourage safe walking and cycling behavior for pedestrians, bicyclists, and drivers. The City could also invest in flashers, beacons, or other visibility aids in heavy pedestrian activity areas.
- Adam suggested reviewing the Waterfront Connectivity Plan to ensure that the recommended projects are compatible with the Post Office Crosswalk/Signage project. Bud suggested that unfunded projects in the Waterfront Connectivity Plan be included in the TSP.
- Bud noted that the Bay Boulevard/Yaquina Bay Road path should be considered, though the TSP should look at other alternatives near the Port due to safety concerns about bicycles and pedestrians conflicting with boatyard operations.
- David suggested that the TSP include policy language that cyclists are concerned about rough pavement around railroad crossings, which is ODOT Rail's responsibility to improve.
- Penny suggested adding signs at the Western Junction with travel distances to downtown Toledo from US 20 to help bring tourists into town – many visitors don't know how close Toledo is to US 20. Anne agreed and suggested adding signs at the Eastern Junction too.
- Adam noted that the City prepared a grant for the East Slope Road sidewalk project, and would share the City's cost estimates with the team to ensure the assumptions are the same.

Bicycle and Pedestrian Priorities

PAC members were asked to do a similar dot exercise for the bicycle and pedestrian projects. The Sturdevant Road Path/Boardwalk project, followed by the high visibility school crosswalks on Sturdevant Road, and the East Slope Road sidewalk extending from East Slope Park to Butler Bridge Road were the projects that received the most dots.

Bicycle and Pedestrian Dot Exercise Results

Bicycle/Pedestrian Prioritization Dot Exercise

Project Number	Project Description	Number of Stickers
B/P Project 1	Burgess Road Sidewalk Extension	0
B/P Project 2	Business Loop 20 Sidewalk Between East Slope Road and Sturdevant Road	5
B/P Project 3	Community Center Sidewalks	2
B/P Project 4	East Slope Road Sidewalk from Park to Butler Bridge Road	6
B/P Project 5	High Visibility School Crosswalks	7
B/P Project 6	Post Office Crosswalk/Signage	2
B/P Project 7	Discourage Vehicles at the Pedestrian Railroad Crossing at SW 2nd Street	0
B/P Project 8	Bay Boulevard/Yaquina Bay Road Bike Path	4
B/P Project 9	Sturdevant Road Path/Boardwalk	8
B/P Project 10	Business Loop 20 Trail/Boardwalk	5
B/P Project 11	Bicycle Wayfinding Signs	1

Transit Policies

The project team did not develop any transit projects after talking with Lincoln County Transit. Terra presented the three transit policy alternatives.

The PAC had the following comments:

- David noted that it was up to the City to make sure policy alternatives were in line with what the City was prepared to support, specifically related to the circulator shuttle policy. The City should determine if it is willing to take on the task of coordinating with the Chamber of Commerce or other entity to develop a circulator.
- David asked about the status of the Coast to Valley Express bus stops which used to drop off and pick up at separate locations for eastbound and westbound buses. That has been fixed.
- Valerie asked about opportunities for new bus shelters. Most are now covered, except for the Food Fair stop.

Freight Rail Policies

Terra indicated that there were no project alternatives for the rail network, and then reviewed the recommended rail policies, which are listed below.

The PAC had the following comments:

- Adam suggested that the policy to coordinate meetings with ODOT Rail to address crossing conditions would be difficult to implement – the City has been attempting to reach out over the past couple of years with limited success. However, he agreed that the policy was necessary. He added that the recently completed safety audit may recommend the installation of crossing arms at the Georgia Pacific rail spur.
- Penny mentioned that different people have different expectations about train noise depending on how long they have lived in the community, and that those who have been in Toledo for a long time are used to train noise, and exploring a quiet zone may be unnecessary.
- Jerry commented that odor from idling train engines near the Post Office and 1st Street siding impact downtown establishments.
- David noted that rail service is important an important aspect of Toledo's economy and the City could add a policy stating that – he mentioned that there is some risk that the rail service could be discontinued due to maintenance costs and the risk of landslides or floods that could damage the tracks. If the City agrees, David

suggested adding a policy stating the importance of the rail line and a willingness to support working with partners to maintain the link to the I-5 corridor.

- Bud noted that a policy in the Port's Strategic Business Plan includes the Intermodal Hub as a priority project.
- Adam suggested that industrial land was important to Toledo, and if the City agrees, maybe adding a policy to the TSP to support heavy industrial sites, such as the Siletz Kiln site, because they are scarce. Adding a policy recognizing the importance of freight access to the Siletz site would help support that goal.

Airport/Pipeline Policies

Terra indicated that there were no recommended projects or policies for the air or pipeline networks. The airport may potentially be sold or permanently closed, while there are no anticipated pipeline expansions within the 20 year TSP planning horizon.

The PAC added the following comments:

- Bud indicated that the Port would like to use the airport as a dredge spoils site should it close, adding that the state does not have money to maintain the airport as it is nearing the end of its usable lifespan.
- Jack asked about the future of helicopter access should the airport close – currently life flights land and take off from the Toledo airport, adding that a helipad could be built in another location. The project team should reach out to Fire Chief to talk through alternate landing sites for helicopters.
- David suggested that the City could either have no Airport policies, or could add a policy supporting the airport's continued operation (if that is the case). If the airport were to close, David suggested having a policy to work with partners to identify an alternate landing site for helicopters. The City could also include a policy stating its support for the continued use of the pipeline to maintain the viability of the paper mill. These policies would be up to the City to decide if they would like to include them in the TSP.
- Adam and Jack noted that the pipeline is important to the City's economy as it is vital to G-P mill operations, and the City should support the continued use and permitting of the pipeline.

Water/Port Projects and Policies

Terra included three projects from the Port of Toledo's *Boatyard Buildout Plan* which also provided cost estimates. An additional policy was also listed to create barge access along the Yaquina River serving the Siletz industrial site.

The PAC added the following comments:

- David suggested adding a policy regarding the need to identify a dredge spoils site and another policy stating that the City values water transportation and would support the continued use of river navigation and waterway access for economic development, if appropriate. Bud agreed with these suggestions.
- Bud noted one possibility for barging would be to develop a pier directly at the entrance of Depot Slough on Georgia Pacific property. ConnectOregon grants could help build a potential project.
- Jack proposed including a recreational (non-motorized) boat ramp in downtown as a policy or project, noting that it could help support economic activity in Toledo. Anne recommended better signage directing people to the existing boat ramp at the airport.
- Bud stated that the price of a boat ramp for motorized boats goes beyond installation, adding that a new boat ramp would be expensive to maintain due to dredging and mitigation and requires a lot of space for vehicles with boat trailers. He suggested that a passive boat ramp for recreational boats like kayaks and canoes would be better than a motorized boat ramp.
- Jack suggested adopting a long-term vision and associated policies that considers the future of Toledo should the Georgia-Pacific mill close within the TSP planning horizon (though this is not currently expected). Bud agreed, saying that the City needs to think strategically about how Toledo might change and how it can adapt should GP leave. There may be a rough transition because of the impact on the local economy but it could also be a prime opportunity for Toledo to remake itself.

Open House & Next Steps

Terra informed the group of the upcoming project open house on Tuesday, March 12 from 4:00-6:00 pm at Toledo City Hall in the council chambers. The open house will be informal and gather input from the community on the recommended projects and policies to include in the TSP. She asked the PAC to help get the word out to the community, and passed out printed flyers.

Terra thanked the committee for their attendance and participation in this meeting and asked the PAC if another meeting was warranted to present the draft TSP. Originally the budget included only three PAC meetings but there may be an opportunity for an additional meeting if the committee thought it would be worthwhile. Since all members agreed that an extra PAC meeting would be beneficial, David informed the group that another meeting would be scheduled after the project team writes the draft TSP. The meeting adjourned shortly after 5:00PM.

PAC Meeting 4 Materials

Toledo TSP Project Advisory Committee (PAC) Meeting #4 Agenda

Date: Thursday, April 25, 2013

Time: 3:00 – 5:00 p.m.

Location: Toledo Fire Department 285 NE Burgess Road, Toledo

Meeting Purpose:

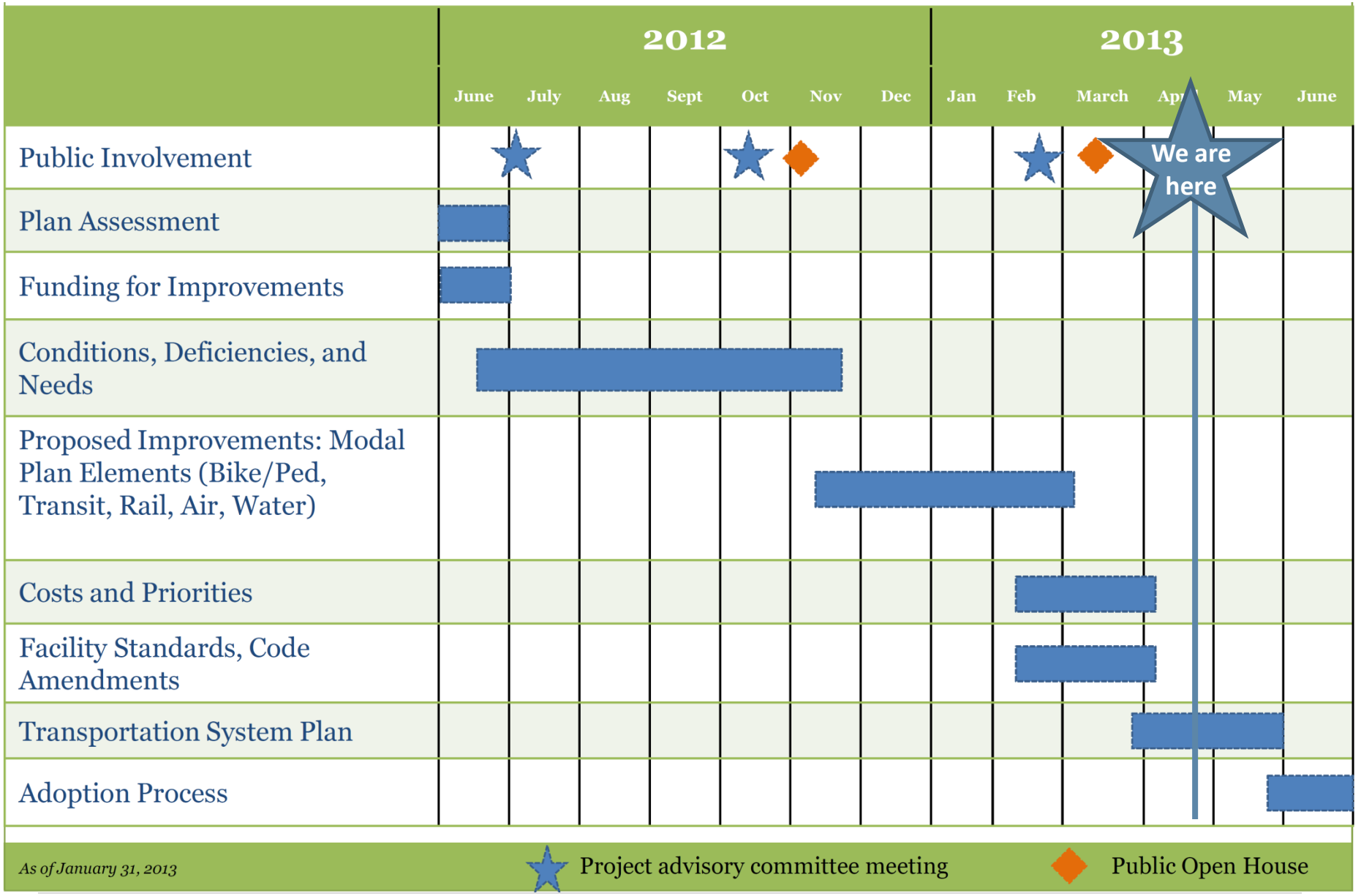
- Review and discuss content of the TSP
- Discuss Toledo Municipal Code changes

Time	Item	Who
3 p.m.	**Welcome and introductions** - Self Introductions - Meeting Agenda - Overview of last meeting	Adam Denlinger
3:10 p.m.	**Review road element of the TSP** - Do you agree with the priorities, policies, and projects?	All
3:40 p.m.	**Review bicycle and pedestrian element of the TSP** - Do you agree with the priorities, policies, and projects?	All
4:10 p.m.	**Review air, water, pipeline, rail, and transit element of the TSP** - Do you agree with the priorities, policies, and projects?	All
4:30 p.m.	**Toledo Municipal Code Changes** - Integrating street standards into the code - Other amendments to the code and Comprehensive Plan	Terra Lingley
4:55 p.m.	**Thank you, Next Steps, Adjourn**	All

Getting Around Toledo, Oregon

PAC Meeting #4 – 4/25/13

Project schedule



Presentation Overview

- Review content of the TSP
- Discuss which concept(s) to carry forward for Western Junction
- Review code changes and consistency with State requirements

Road Projects

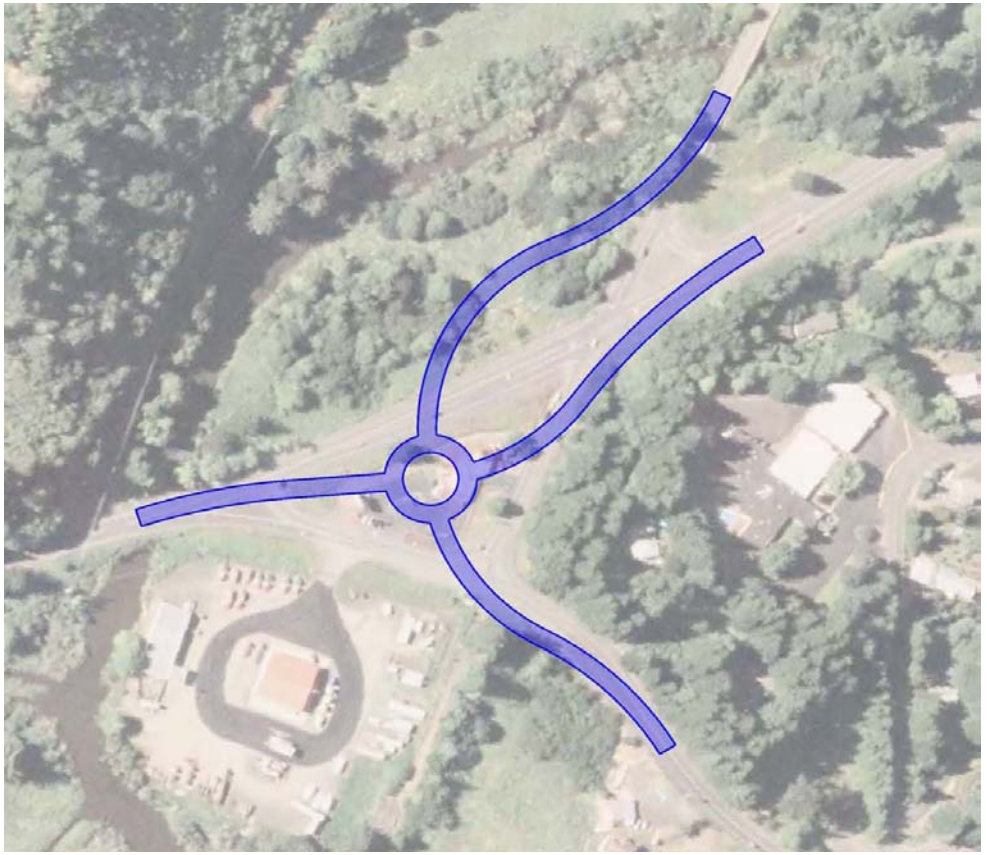
- Freight
  - Add more wayfinding signs (including no truck signs)
  - Support access to heavy industrial sites.
- Business Loop 20 at A Street
  - Add right turn lane on Business Loop 20 to A Street
- East Slope Road Realignment
  - Allow freight trucks to use East Slope Road
- Burgess Road Realignment
  - Create a 90 degree angle
- Sturdevant Road Realignment
  - Allow large trucks to Siletz Kiln Site
- A Street Railroad crossing
  - From Waterfront Connectivity Plan
- Butler Bridge Road and 1st Street Changes
  - From Waterfront Connectivity Plan

Western Junction Alternatives

- No Build
- Couplet– not moving forward
- Diamond Interchange
- Low Build
- Offset T – not moving forward
- Roundabout – recommend not moving forward
- One Traffic Signal
- Two Interconnected traffic signals

Roundabout Alternative

- Reduces access points and vehicle conflict points
- Slows traffic on US 20 – impacts to Dairy Queen
- Removes all cross traffic from US 20, reduces severity of potential crashes
- Has environmental impacts
- Freight community concerns
- Western Loop would remain open

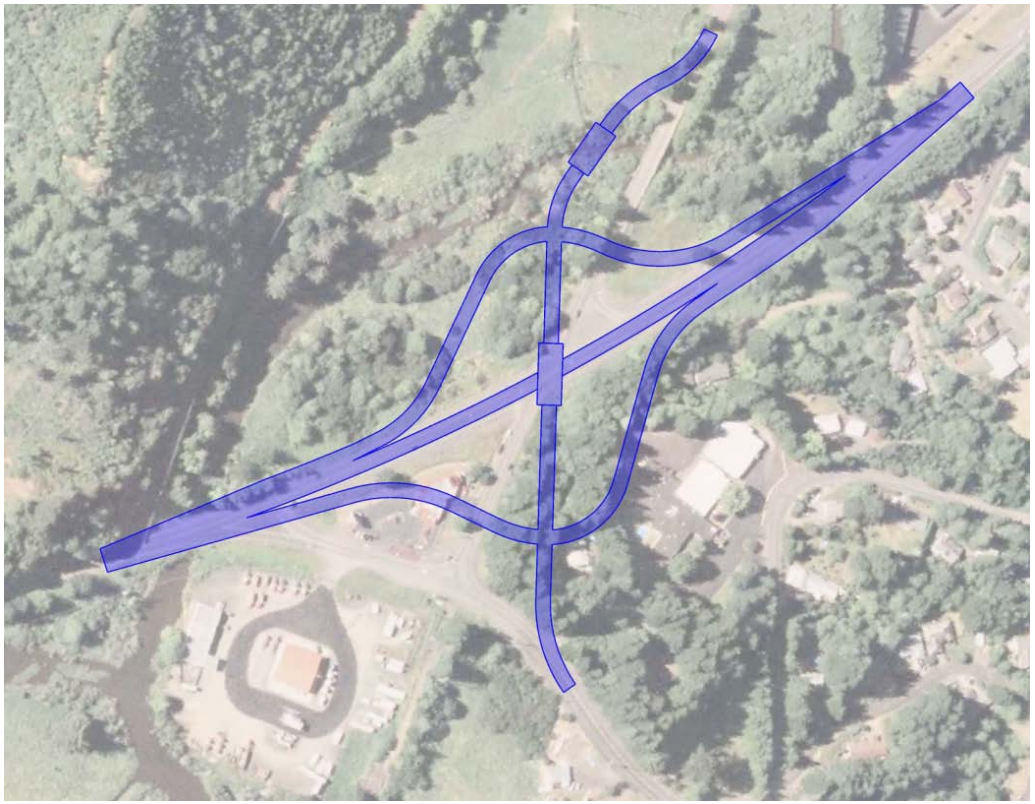


Roundabout

- $3.3 million
- No votes at PAC Meeting #3
- No votes at Open House

Diamond Interchange Alternative

- Addresses congestion and safety issues
- Expensive
- Could have environmental impacts
- Out of scale with existing US 20
- Impacts to Dairy Queen
- Closes Western Loop



Diamond Interchange

- $9.8 million
- 5 votes at PAC Meeting #3
- No votes at the Open House

Low Build Alternative

- Lowest cost alternative
- Backups would still happen on Business Loop 20
- Vehicles still cross US 20
- Could be an early phase for a larger project
- Dahl's Disposal access kept open; Western Loop is right-in, right-out

Low Build

- $2.3 million
- 5 votes at PAC Meeting #3
- 1 vote at Open House

One Traffic Signal Alternative

- Addresses congestion on Business Loop 20
- Inconsistent with driver expectation on US 20
- Does not remove cross traffic on US 20
- Impacts to Dairy Queen
- Western Loop would remain open

- Would widen US 20 to four lanes from Western Junction to Arcadia Drive

One Traffic Signal

- $7.6 million
- 2 votes at PAC Meeting #3
- 5 votes at Open House

Two Traffic Signal Alternative

- Would keep most of the existing roads in place
- Addresses congestion on Business Loop 20
- Inconsistent with driver expectation on US 20
- Cross traffic remains on US 20
- Avoids Dairy Queen
- Western Loop would remain open
- Widens US 20 to 4 lanes to Arcadia

Two Traffic Signals

- Cost estimate likely to be similar to one signal ~ $7.6 million
- New concept (no PAC or Open House votes), though positive feedback when discussed at the Open House

Western Junction Group Activity and Discussion

- Summary of alternative
- Does the community support this alternative?
- Do you recommend including this alternative in the TSP?

Bicycle/Pedestrian Projects and Policies

- **Fill Sidewalk Gaps**
  - Burgess Road
  - Business Loop 20 (East Slope Road to Sturdevant Road)
  - Douglas Street/SE 3rd Street
  - East Slope Road
  - A Street Business Loop 20 to NW 1st Street (Waterfront Plan)
  - Bay Boulevard (Waterfront Plan)
- **Crosswalks,** could include signage, markings, and in some cases, flashing lights
  - Crosswalks at schools
  - Butler Bridge Road, SE 2nd and Main
  - NW 1st Street midblock crossing (Waterfront Plan)
  - Butler Bridge railroad fencing (Waterfront Plan)

Bicycle/Pedestrian Projects and Policies

- **Bicycle Boulevards** - neighborhood streets that prioritize bicyclists and pedestrians
  - Implement bicycle boulevard network on residential streets
- **Trail Network** for both bicyclists and pedestrians:
  - Bay Boulevard/Yaquina Bay Road trail
  - Multi-use path and/or boardwalk along Sturdevant Road
  - Business Loop 20 multi-use trail or boardwalk to US 20 and Western Junction
  - Waterfront Path (Waterfront Plan)
  - Bay Boulevard – Depot Slough bike/ped crossing (Waterfront Plan)
- **Wayfinding Signs** - encourage visitors to explore downtown on foot or bike
  - Amenities and Signage (Waterfront Plan)
  - Install bicycle wayfinding signs from Bay Boulevard into downtown

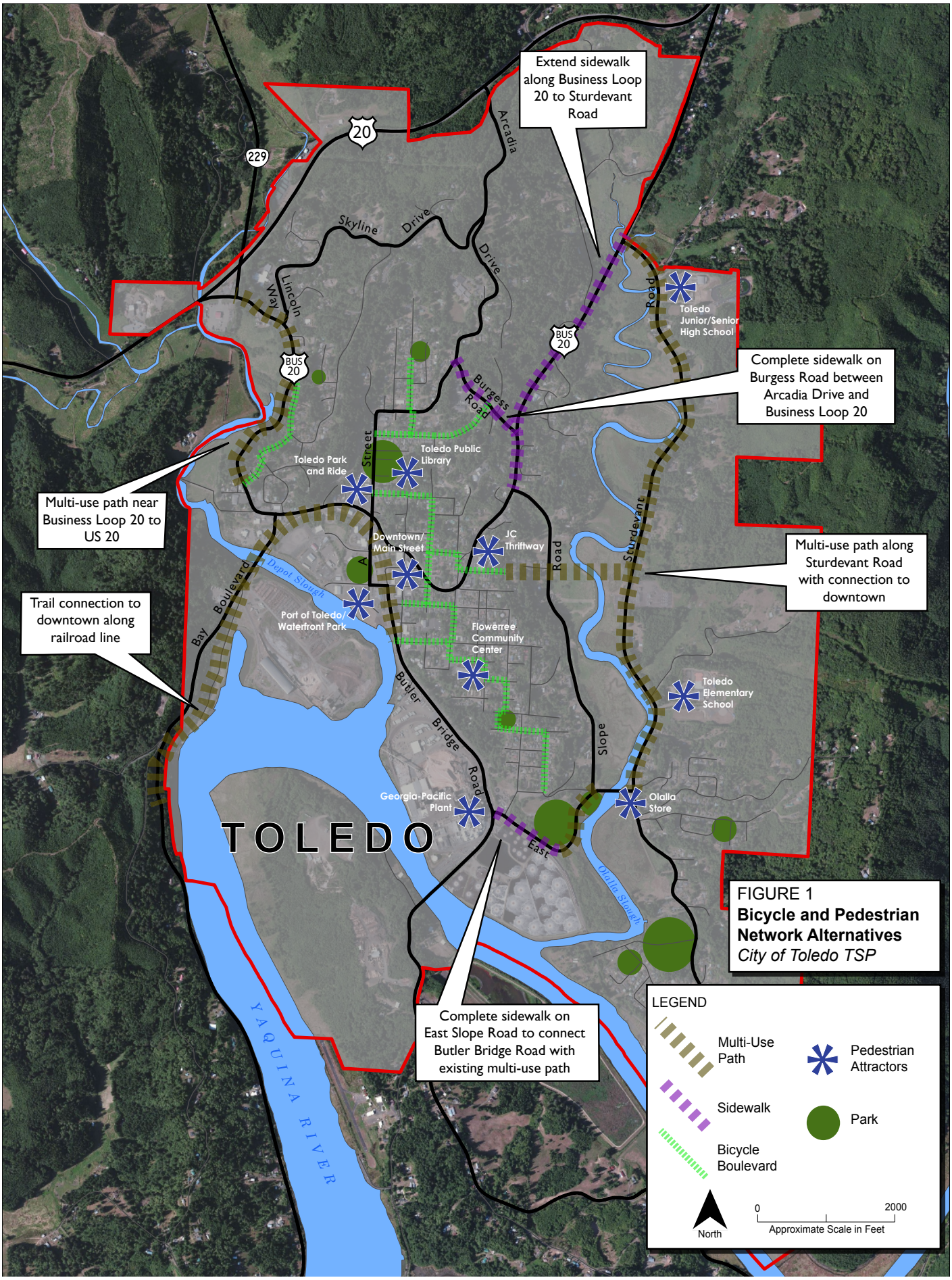


FIGURE 1
Bicycle and Pedestrian Network Alternatives
City of Toledo TSP

Transit Policies

- Lincoln County Transit manages transit service. No recommended projects.
- City policies:
  - Support new investments in transit service and infrastructure;
  - Explore citywide transit shuttle or circulator
  - Explore a water taxi or ferry service to Newport

Freight Rail Policies

- City policies:
  - Maintain freight rail connection to Toledo from I-5 corridor
  - Coordinate meetings with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to address crossing conditions
  - Develop evaluation criteria and generate a prioritized crossing improvement list
  - Explore an Intermodal hub with the Port of Toledo
  - Reduce idling train engines near Downtown businesses

Airport/Pipeline

- Airport
  - Identify alternate Life Flight landing locations in City if Airport closes
- Pipeline
  - Support GP's effluent pipeline to maintain applicable environmental permitting

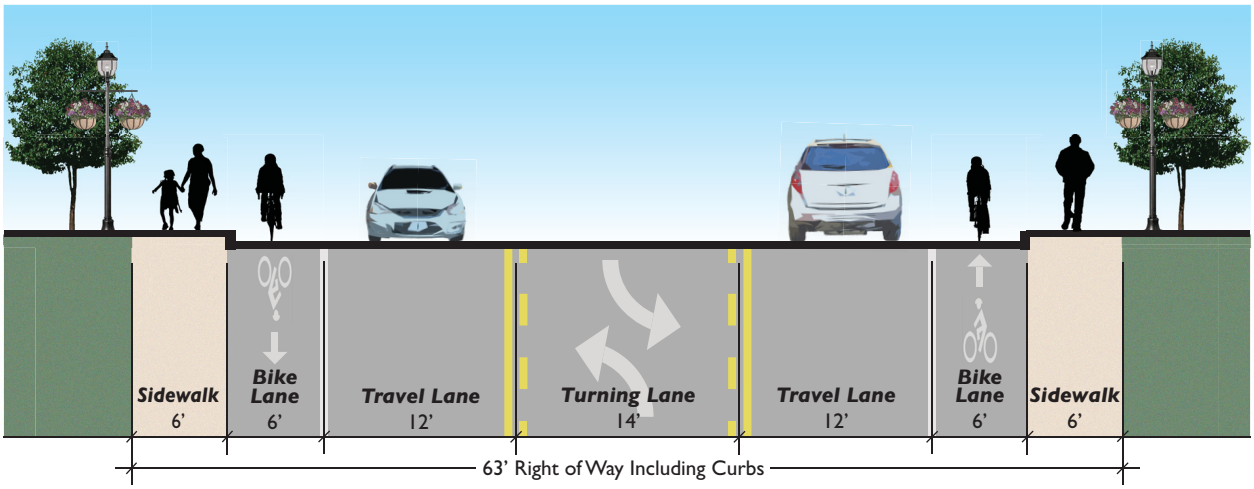
Water/Port Projects and Policies

- The Port's *Boatyard Buildout Plan*, includes:
  - **Phase 1-3** of the Port's plan – facilities improvements
- Water Policies
  - Assess Butler Bridge to explore accommodating taller barges and boats
  - Explore pier for barge access at Depot Slough (GP property)
  - Explore recreational boat launch near downtown
  - Identify dredge spoils site
  - Support intermodal hub

Plan and Code Amendments

- Comprehensive Plan Amendments
  - TSP as the transportation element
  - Include TSP policies
- Municipal Code Amendments
  - Comply with Transportation Planning Rule (TPR) requirements
  - Ensure transportation facilities are allowed uses in each zone
  - Add transportation standards

3-LANE **ARTERIAL** ROAD



2-LANE **ARTERIAL** ROAD

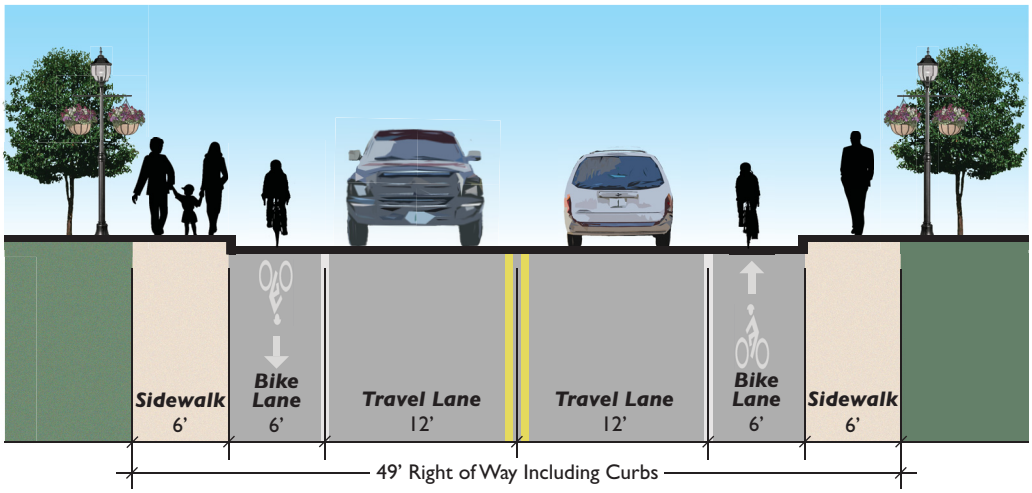
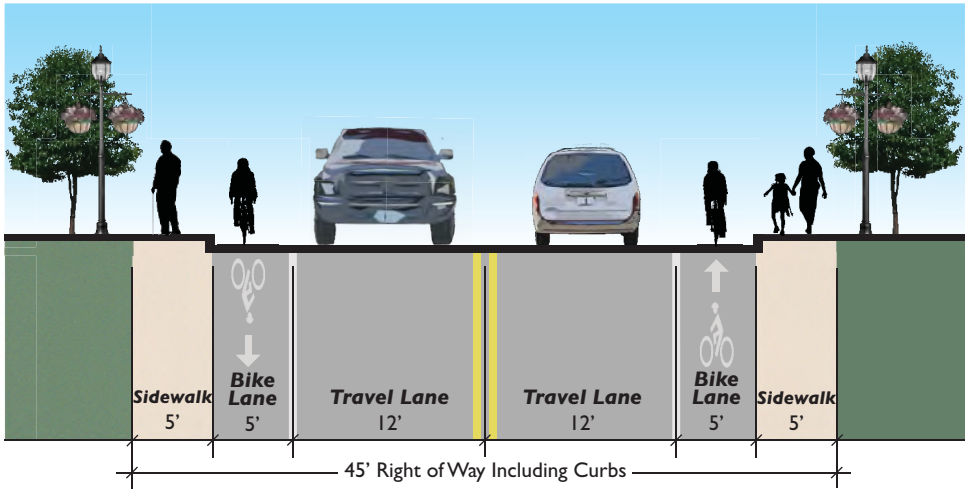


FIGURE 1
Arterial Road Standards
City of Toledo TSP

COLLECTOR ROAD



COMMERCIAL ROAD

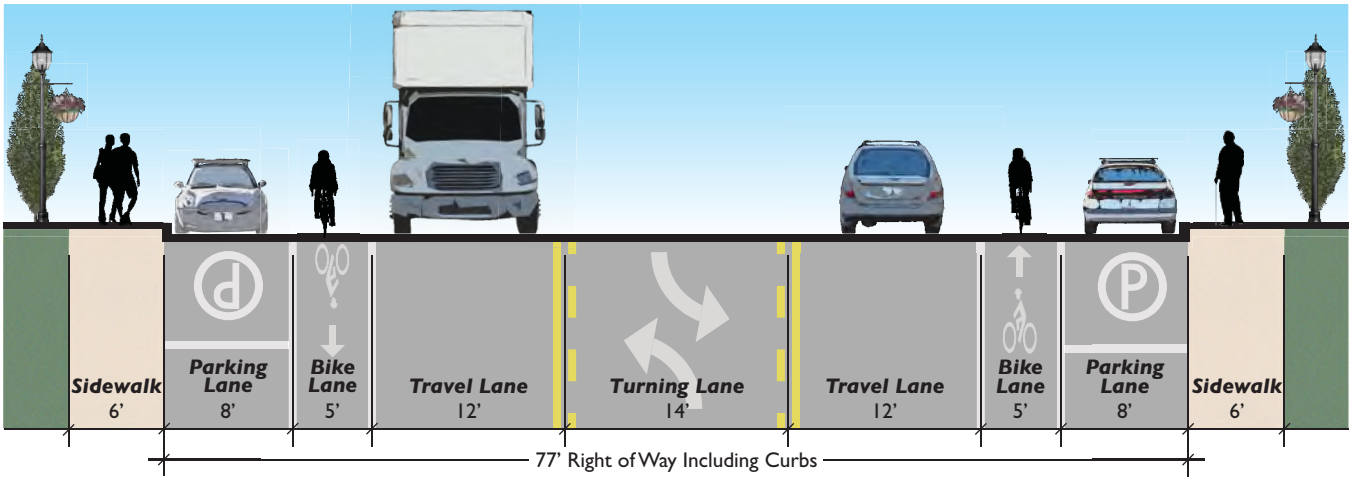
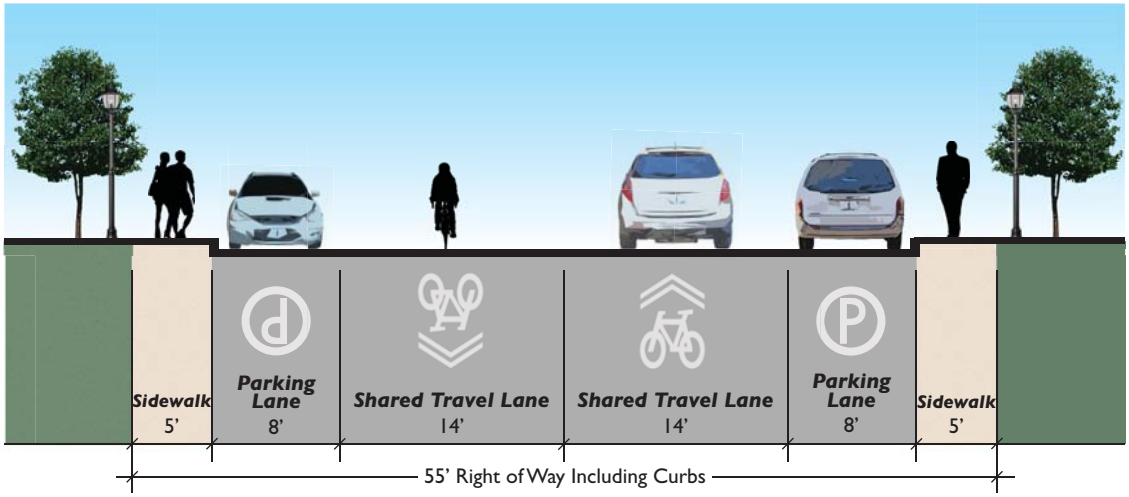
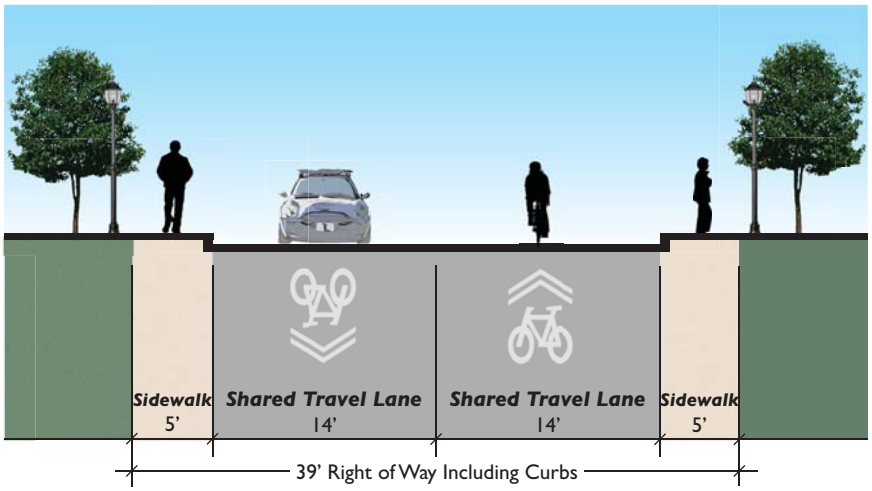


FIGURE 2
Collector and Commercial Road Standards
City of Toledo TSP

PREFERRED **LOCAL** ROAD



MINIMUM **LOCAL** ROAD



DOWNTOWN **MAIN STREET**

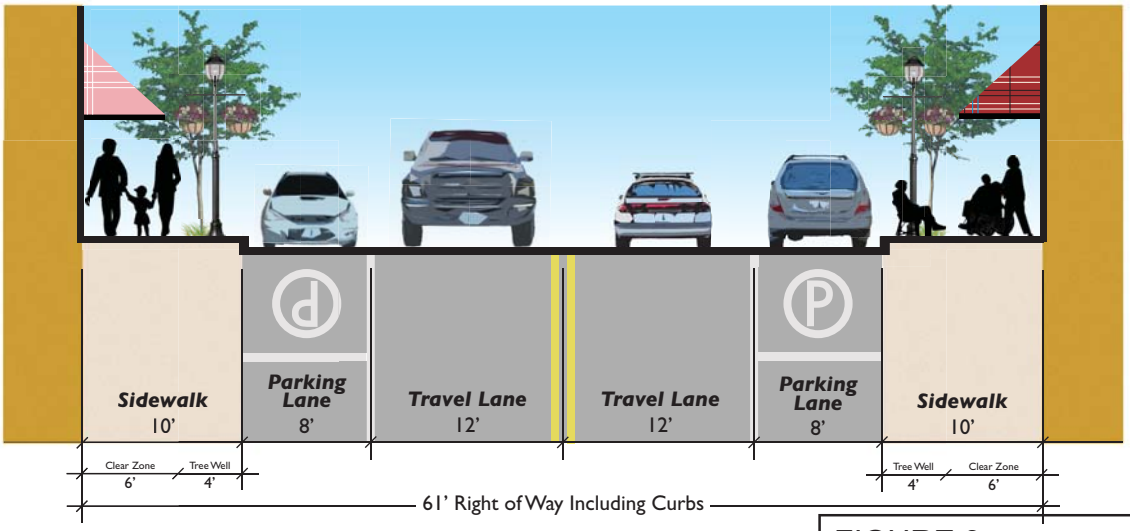


FIGURE 3
Local Road and Downtown Main Street Standards
City of Toledo TSP

Project Advisory Committee (PAC) Meeting #4

ATTENDEES:
Adam Denlinger, City of Toledo
Reza Farhoodi, CH2M HILL
David Helton, ODOT
Arlene Inukai, City of Toledo
Terra Lingley, CH2M HILL
Penny Ryerson, Port of Toledo
Jerry Seth, Toledo Planning Commission
Bud Shoemake, Port of Toledo

PREPARED BY: Reza Farhoodi, CH2M HILL

DATE: May 8, 2013

The City of Toledo Transportation System Plan (TSP) held its fourth Project Advisory Committee (PAC) meeting on April 25, 2013 from 3:00-5:00 p.m. at the Toledo Fire Department. The purpose of the meeting was to review the content of the TSP, decide on which Western Junction concepts to carry forward, and review proposed amendments to the Toledo Comprehensive Plan and Toledo Municipal Code for consistency with state requirements as described in Technical Memoranda #9 and #10. The PAC reviewed information and had the opportunity to provide feedback on the findings. Handouts of the agenda and fact sheets summarizing the Western Junction concepts were available along with the meeting sign-in sheet. The meeting began shortly after 3:00 pm and ended early at 4:20 pm.

Introduction

Terra Lingley began the meeting with a schedule update – the project team is drafting the TSP and preparing for adoption by City Council and the Planning Administration. PAC Meeting #4 is the final PAC Meeting of the TSP project. Terra thanked the PAC for their work in developing the TSP.

Terra provided a brief overview of the projects and policies to be included in the TSP, categorized by mode.

TSP Projects

Terra reviewed the list of projects and policies for the roadway, freight, bicycle/pedestrian, transit, rail airport, pipeline, and water/port modes. The team added projects listed in the adopted *Waterfront Connectivity Plan* to the TSP based on feedback from the previous meeting. Other changes included adding a policy to reduce idling train engines impacting businesses downtown, and to remove the policy for a rail quiet zone downtown.

The TSP will include language that the City and Lincoln County will work with the Port of Toledo to avoid impacts to the Port's boatyard operations with the Yaquina Bay Road Trail. Bud asked the City to look at the Bay Boulevard/ Altree Road intersection because of the problems with turning truck traffic and limited visibility due to the rail cars stored nearby.

David Helton from ODOT mentioned that any projects included in the TSP on US 20 would require further analysis and support from ODOT before further design and construction would begin. Based on the existing conditions analysis at Western Junction, the City would not be able to use ODOT safety funding because the crash and fatality rates are relatively low compared to similar roads. However, the City should work with the local Area Commission on Transportation (ACT) to include the project in the next Statewide Transportation Improvement Program (STIP) and advocate for statewide funding. Terra noted that currently Adam is the ACT representative for Toledo, and the City should find another person to attend those meetings and advocate for transportation projects important to Toledo since Adam has accepted another job.

Western Junction Alternatives

PAC members then discussed the remaining Western Junction concepts. The Couplet and Offset-T options were removed based on feedback from the previous PAC meeting.

Roundabout Alternative

Terra walked through the Roundabout alternative and asked the PAC if they were comfortable removing the Roundabout due to the unpopularity with the freight community, the expense, and the inconsistency of a roundabout on US 20. Adam mentioned that the City Manager was also not in favor of keeping the roundabout in the TSP. PAC members in attendance supported removing the Roundabout alternative.

Terra walked through the remaining Western Junction alternatives, describing the benefits and drawbacks of each, and noted any modifications that were made since the last PAC meeting.

PAC members discussing Western Junction concepts

Low Build Alternative

Terra noted that the Low-Build option would retain full access to Dahl's Disposal from US 20, and access to Western Loop would be modified to right-in/right-out only turns. PAC members were concerned that this option does not address the OR 229 intersection, and that widening the bridge over Depot Slough would be too costly for the small benefits.

The PAC voted unanimously to remove the Low-Build option from the TSP.

One Signal Alternative

The one-signal option would allow Western Loop to stay open at US 20. The cost of the option takes into account wetland mitigation required due to the alignment of OR 229 but does not include the costs of acquiring and relocating the Dairy Queen. The PAC felt that the widening of US 20 was too expensive and also expressed concern about the impact to the DQ site.

The PAC voted unanimously to remove the One-Signal option.

Two Signal Alternative

The Two-Signal option is a new alternative developed after the project Open House in February - it would add two coordinated signals, one at US 20/Business Loop 20/Western Loop and another at US 20/OR 229/Business Loop 20 Spur. North of US 20, OR 229 would be relocated slightly to reduce the extreme angle of the intersection, while Western Loop would also be relocated to line up with Business Loop 20 at US 20. This relocation would require a new structure over Depot Slough, and detailed cost estimates were not available yet for this concept, though they are likely similar to the One Signal Alternative, though this alternative would not impact the Dairy Queen.

The PAC voted unanimously to include the Two-Signal option.

Modified One Signal Alternative

David suggested refining the two signal alternative into a Modified One-Signal option. This alternative would add one signal at US 20/OR 229/Business Loop 20 Spur and slightly realign OR 229 north of US 20 to reduce the angle of the intersection, but would keep all of the other roads at the intersection where they are. Westbound Business Loop 20 traffic traveling to Newport would turn left onto US 20 at the signal, while eastbound right turns from US 20 eastbound to Business Loop 20 into Toledo would remain on free-flowing. Business Loop 20 between the OR 229 spur and US 20 would be one way eastbound, while maintaining access to both Dairy Queen and the trucking business on the west side of Business Loop 20.

This concept needs further study, as the angle of the intersection may make it difficult for large freight trucks to turn west onto US 20 to Newport. David added that while Western Loop access may need to close due to the proximity to the signal, but that decision would not have to be made at this point. A cost estimate would need to be developed for this concept.

The PAC voted unanimously to include the Modified One-Signal option.

Interchange Alternative

The Interchange alternative has not changed since the previous PAC meeting. While it improves congestion and safety, it is the most expensive option and would result in closing access to Western Loop and displacing the Dairy Queen.

The PAC voted unanimously to remove the Interchange option.

Plan and Code Amendments

Reza Farhoodi reviewed the proposed plan and code amendments included in Technical Memos #9 and #10. The recommended changes are necessary to comply with the statewide Transportation Plan Rule. The Comprehensive Plan will include new language referencing the TSP as the transportation element of the Comprehensive Plan and the new TSP policies. Amendments to the Municipal Code will include new language ensuring transportation facilities are allowed uses in each zone and codifies transportation facility standards similar to those already being used by the public works department.

Reza Presenting Street Cross Sections

David mentioned that the bicycle parking requirements, while similar to the state model code suggestions may not be appropriate for the City of Toledo and suggested that City staff take a look at the recommended parking requirements and determine if those are appropriate for the City. Some smaller Cities do not require four or more residential unit properties to provide covered bicycle parking due to the costs it could place on developers.

Adam clarified that Main Street design standards would only reference 10-foot wide sidewalks and not include references to a “clear zone” or “tree/furnishing zone”.

Next Steps

Terra informed the group of the upcoming joint City Council/Planning Commission workshop to review the TSP before adoption. Terra thanked the committee for their attendance and participation in this meeting and adjourned the meeting at 4:20 PM.

Open Houses

Two project Open Houses were held as part of the TSP process. Both open houses were paired with a City meeting (either City Council, Planning Commission, or a worksession at City Hall) to draw more people and introduce them to the TSP. The format was informal drop-in, and staff was on hand to talk with attendees and to provide information and answer questions. There was a comprehensive outreach approach for both open houses, included in the summaries in the following materials.

Open House #1 was on November 7, 2012 to discuss the findings from Technical Memo #3, Transportation Deficiencies and Needs.

Open House #2 was on March 12, 2013 to discuss the project alternatives, along with projects and policies to include in the TSP document.

Open House #1 Materials

Help plan the future of Toledo's transportation!

The City of Toledo is creating a plan for the future of transportation in Toledo. This plan will look at ways to improve connections for everyone traveling in or through the city, either by foot, bike, car, freight, boat, or air.

Come to the open house to share your thoughts on how transportation can be improved. Children are welcome!

Come to the first project Open House!

Wednesday, November 7th

5:00 to 7:00 pm, drop by anytime

(right before the City Council meeting)

Toledo City Hall (206 N Main St)

Special accommodations will be provided upon request. Please call 541-336-2247 by November 5th.

Atender a una casa abierta para compartir tus ideas para el proyecto. Servicios de traducción estarán disponibles. Los niños son bienvenidos! Por favor llame al 541-336-2247 para pedir esta al 5 de Noviembre.

Learn more at www.GettingAroundToledoOregon.org

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Learn more at www.GettingAroundToledoOregon.org

Getting Around Toledo, Oregon

Toledo Transportation System Plan (TSP) open house

Welcome! Tonight you can:

- Learn about the TSP project
- Tell us what you think about transportation in Toledo now and what you would like to see in the future
  - Fill out a comment form
  - Leave your thoughts on the maps
- Talk to project staff members and ask questions
- Comparta sus ideas para el proyecto. Servicios de traducción estarán disponibles.

Study Area

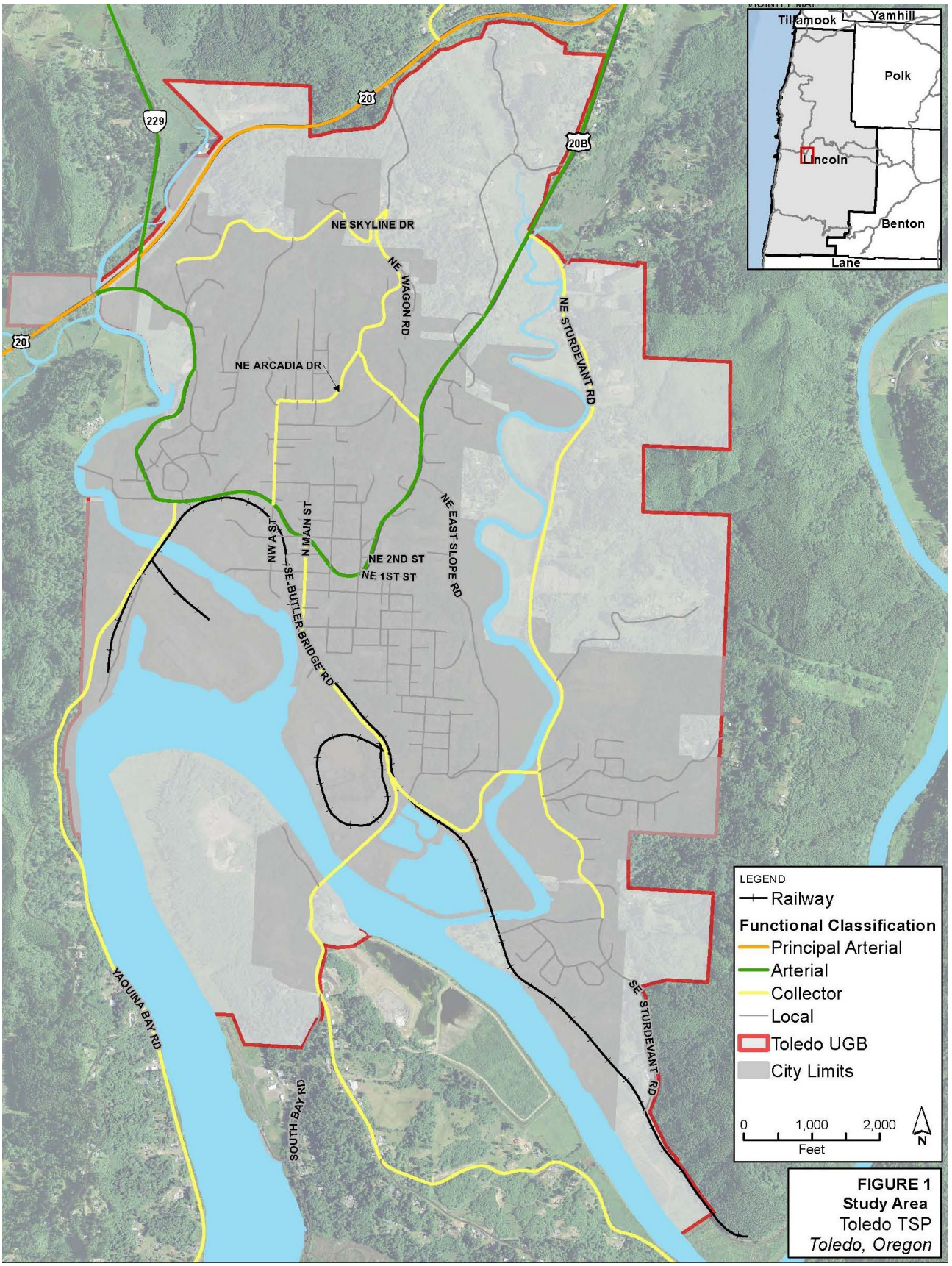


FIGURE 1
Study Area
Toledo TSP
Toledo, Oregon

Why do a TSP?

- Required by the state
- Provides a long-term plan for transportation investments
- Identifies issues that need further study
- Sets transportation policy for the city
- Ensures coordination between transportation and land use planning

Steps to develop the TSP

Public input throughout

Develop goals and policies

Understand conditions

We are here

Indentify possible alternatives and select preferred alternative

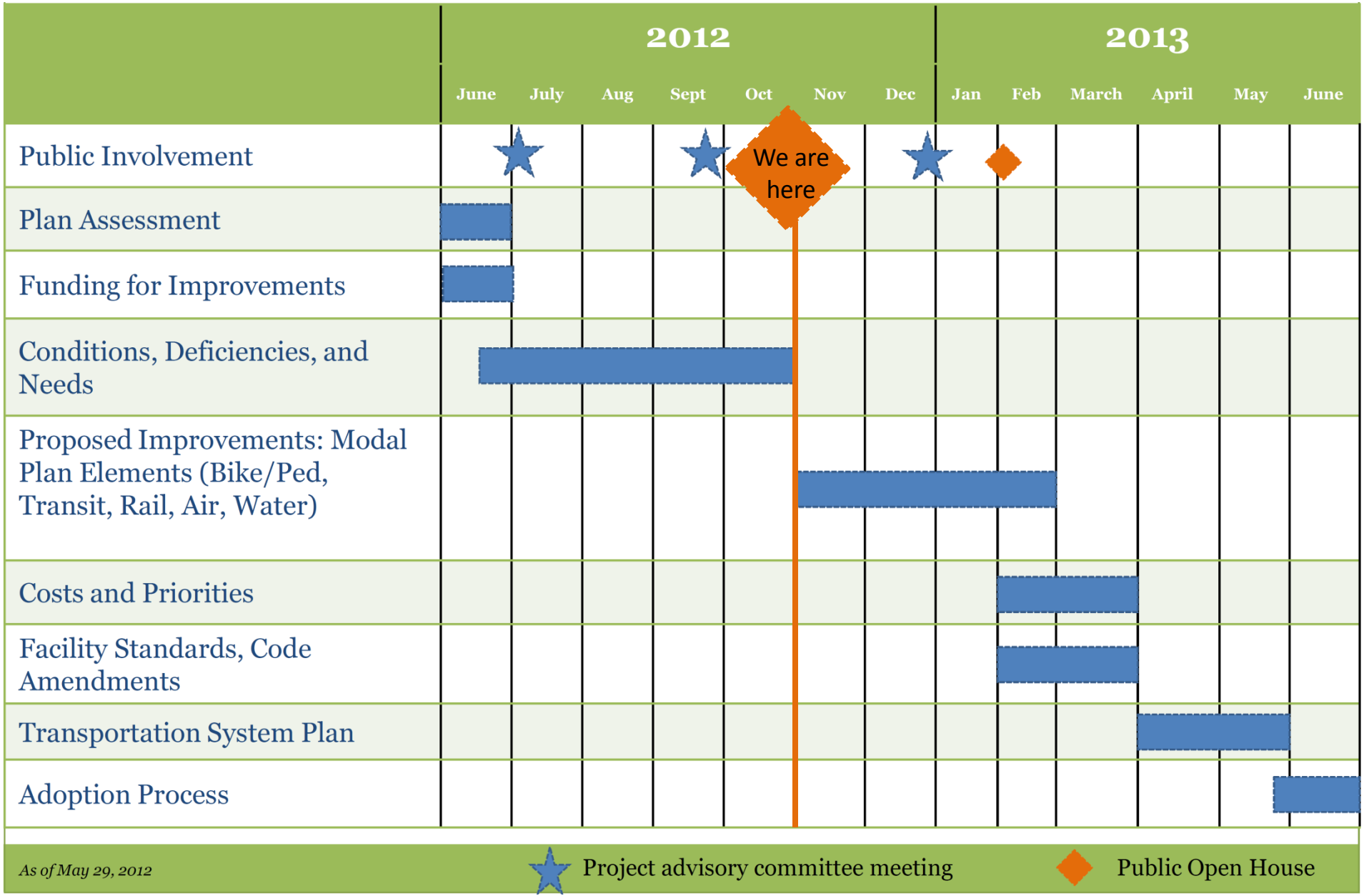
Develop cost estimates and priority strategy

Revise City standards and amend Code

Finalize and adopt the TSP

Public input throughout

What is the project schedule?



Who's involved?

- City of Toledo Residents
- City of Toledo
- Oregon Department of Transportation (ODOT)
- Lincoln County
- Department of Land Conservation and Development

We want to hear from you!

- Are we missing any problems or concerns that you have?
- Do you have solutions for improving transportation in Toledo?
- You can:
  - Fill out information on the maps
  - Fill out a comment form
  - Talk to a staff member

Zoning and Truck Routes

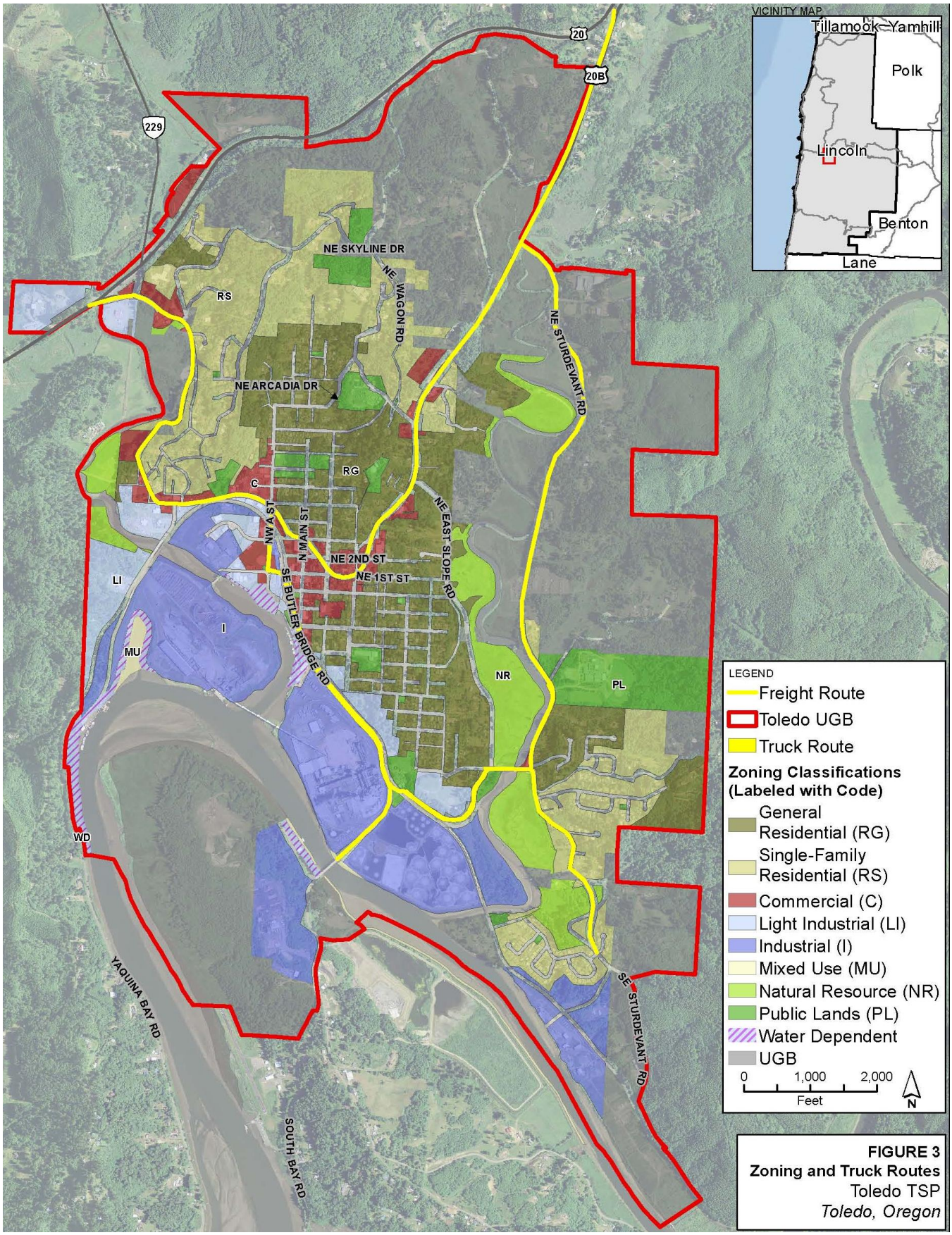


FIGURE 3
Zoning and Truck Routes
Toledo TSP
Toledo, Oregon

Bike and Pedestrian Facilities

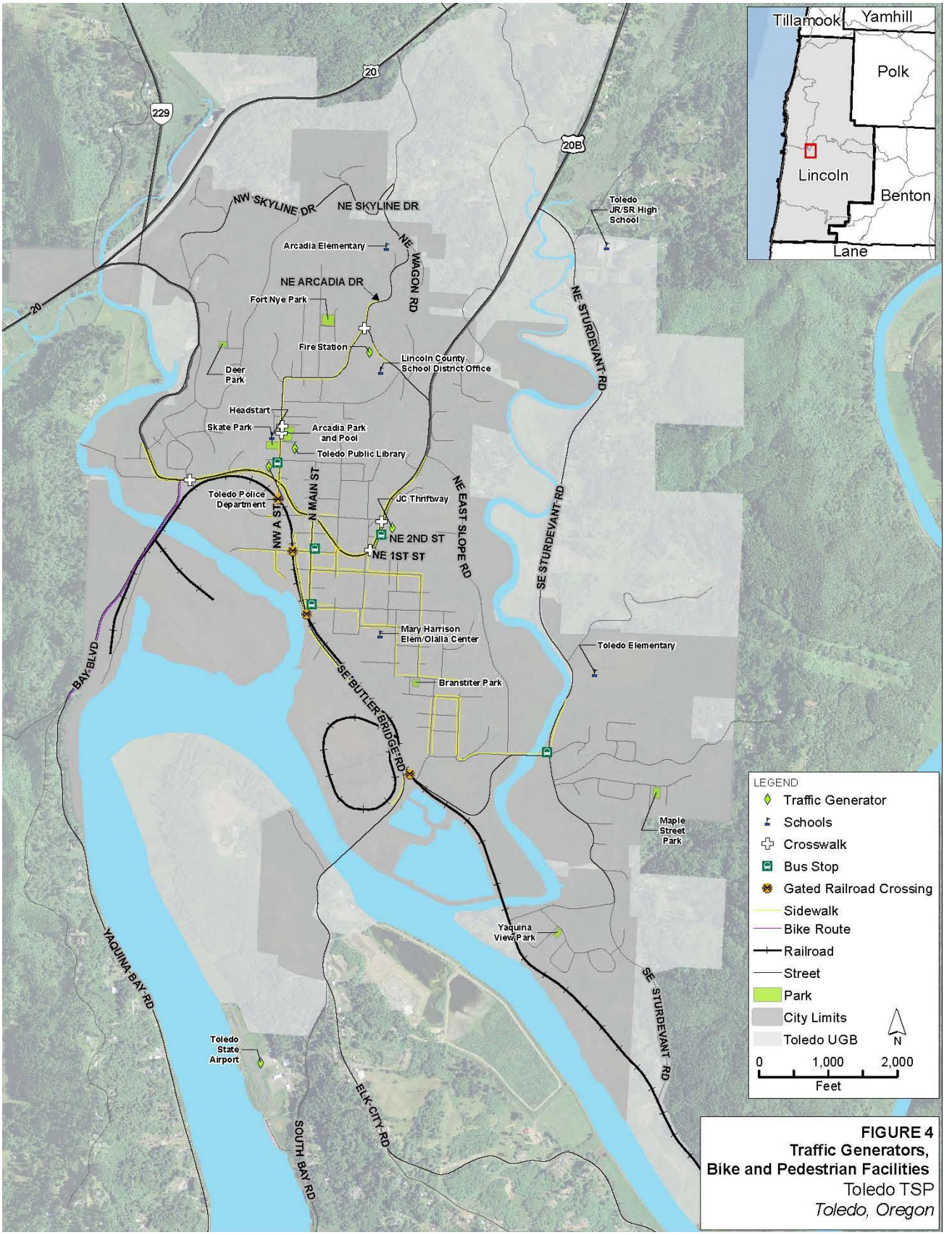


FIGURE 4
Traffic Generators, Bike and Pedestrian Facilities
Toledo TSP
Toledo, Oregon

Road Needs

Existing conditions

- Steep grades and curves
- Narrow right-of-way with little room for shoulders, sidewalks, or bicycle lanes

What else? Examples?

Truck Freight Needs

Existing conditions

- Serve industrial land within the city
- Trucks may stray from signed routes and get stuck on steep/narrow roads

What else? Examples?

Land use and Traffic generators Needs

Land Use Existing Conditions

- Industrial land is near the Yaquina River and the Slough on the south of the city near residential areas
- Conflicts between heavy freight and residents

Traffic Generators

- Georgia-Pacific main generator; traffic at shift changes and throughout the day
- Other generators are along Main Street, schools and parks, the Library, Police Department, and Fire Station; traffic throughout the day
- The grocery store attracts traffic throughout the day, but peak is in the afternoon

What else? Examples?

Bicycle and Pedestrian Needs

Existing Conditions

- One bike route in Toledo and no striped bike lanes
- Steep/narrow roads and railroad crossings make bicycling and walking difficult
- Sidewalks in the downtown core and along portions of Business Loop 20; some gaps in the sidewalks

What else? Examples?

Transit Needs

Existing Conditions

- Lincoln County Transit = 6 daily round trips, with 6 stops in Toledo on the Siletz-Newport route
- Benton County = Coast to Valley Express intercity route

What else? Examples?

Freight Rail Needs

Existing Conditions

- Portland & Western Railroad operates to Georgia-Pacific
  - 1 round-trip train/day and 6-12 switching movements along the track near Butler Bridge Road downtown
- Most crossings are gated, 2nd Street to Butler Bridge is not
- Crossings rough/safety hazard for vehicles and pedestrians

What else? Examples?

Airport Needs

Existing Conditions

- 22 takeoffs and landings a week
- No plans to expand the airport

What else? Examples?

Water and Pipelines Needs

Existing Conditions

- 200 boats in/out of the Port per year; no freight is unloaded or offloaded
- 50 boats a year come to Yaquina Boatworks for maintenance
- Water/sewer lines in City-owned streets
- Georgia-Pacific site has a large pipeline connecting two activity areas, outflow pipeline through town to the Ocean
- 1 gas transmission pipeline northeast of the City

What else? Examples?

Safety Issues

Existing Conditions

- The western junction of US 20, Business Loop 20 and OR 229 had 12 crashes with one fatality
- There are a number of near-misses at the Western Junction
- Main Street an Business Loop 20 intersection is hard to see around

What else? Examples?

Parking in Downtown

Existing Conditions

- On a typical day, 25-40 percent of parking is full on Main Street
- Except for special events, there is enough parking downtown

What else? Examples?

Your feedback is a vital part of the planning process! Before you leave, please fill out this comment form and put it in the comment box. *(Use the back of the sheet if you need more room.)*

Problems or Concerns

Are there any problems missing from the boards (walking, biking, driving, flying, taking rail in Toledo)?

Solutions

Any ideas for creating solutions for the problems you've listed above?

Other comments

Do you have any other comments? Is there anything else you want to tell us?

Optional information

How did you hear about this open house? (check all that apply) ☐ Newspaper Ad ☐ News Article ☐ Word of Mouth ☐ TV/Radio ☐ Email update ☐ Other: _____

How would you like to be involved as the project moves forward? (check all that apply)

☐ Attend an open house ☐ Go to a booth at the farmer's market or _____

☐ Visit the website to learn more and submit comments ☐ Read a news article ☐ Read a newsletter/mailing ☐ Read an email update ☐ Other: _____

This project is requesting demographic information at public events to evaluate the effectiveness of public outreach activities. **The identity of individuals is kept confidential.** The results are reported as totals only, and **used solely to help improve future community engagement.** Providing this information is voluntary.

Check all that apply.

Race/Ethnicity

☐ African-American (not of Hispanic origin)
☐ Caucasian (not of Hispanic origin)
☐ Hispanic
☐ American Indian or Alaskan Native
☐ Asian or Pacific Islander
☐ Unknown/Do not wish to disclose

Language Spoken at Home

☐ English
☐ Spanish
☐ Do not wish to disclose
☐ Other:_____
_____

Gender Identity

☐ Male
☐ Female
☐ _____
☐ Do not wish to disclose

ZIP Code

_____

Please return before November 12, 2012: **mail** to Adam Denlinger, City Hall/ PO Box 220/ Toledo, OR 97391; **fax** 503-736-2074; or **submit** using the comment form at www.GettingAroundToledoOregon.org.

Toledo Transportation System Plan
Open House #1 Summary

Wednesday, November 7, 2012
5-7 p.m.
Toledo City Hall

This document provides a summary of the Toledo Transportation System Plan Open House held November 7th at Toledo City Hall. The purpose of this open house was to review findings from the project team on transportation system deficiencies and needs, as well as gather input from the community about additional problem areas that need to be addressed. Twenty-six people signed in the night of the event.

Displays at the Open House

The open house format was an informal drop-in open house. Visitors had the opportunity to view study area maps and read display boards that included findings gathered for the most recent Technical Memo #3, Transportation System Deficiencies and Needs. Additionally, there was the opportunity for community members to speak with the project team about their concerns, to stick Post-It note comments onto the display boards, and complete project comment sheets (to leave in the comment box or mail back to the project by November 12).

Open House Notification

The Open House was announced to the public through a variety of outlets. Flyers for the Open House were posted to businesses around Toledo and at City Hall two weeks before the event, as well as being distributed to the Project Advisory Committee on October 11, 2012. The same information was published in the City's monthly utility mailer, which is distributed to all residents and businesses. A press release was distributed by the City of Toledo, to local media outlets. The Newport News Times ran a short article about the project before the event. Project Advisory Committee members and other key stakeholders were

called a week before the event and personally invited to attend by City staff members. Finally, an email was distributed to the project mailing list to announce the event.

Open House Stations

The Open House included the following stations:

- ***Welcome and Sign-In –*** A staff person introduced visitors and explained the format of the event. Comment forms were available and the participants signed in, as a way to count attendees and to increase the mailing list for future announcements.

- ***Project Overview –*** The boards in this area included project overview, goals, schedule, study area maps, and who is involved. There was also a comment box in this area where visitors could drop off completed comment forms.

- ***Key Findings –*** The majority of the display boards summarized the key findings from Technical Memo #3, Transportation System Deficiencies and Needs. The boards were separated by the type of travel mode and each had space below the findings where participants could write comments.
    - roadway facilities
    - bicycle/pedestrian facilities
    - transit facilities
    - freight truck routes
    - freight rail network
    - water and pipeline facilities
    - airport facilities
    - general safety concerns
    - downtown parking

  Comments were also directly added to study area maps showing roadway functional classification, zoning, freight routes, traffic generators, and the sidewalk network.

- ***Next Steps –*** This board described how comments from the public would be incorporated into the next phase of the planning process, which is brainstorming recommendations to address the identified deficiencies and needs.

Community members at the Open House

Summary of Public Comments

The following section is a summary of public comments received during the Open House. These comments were submitted via the project comment sheets, written on Post-It notes added to the display boards and maps, and through conversations with project staff.

Roadway Needs

Attendees provided the following comments on roadway facilities in Toledo:

- Several participants cited the Western Junction (US 20/OR 229/Business Loop 20 intersections) as having many deficiencies, including issues with congestion and safety. Specifically:
    - There are long backups in the morning on westbound Business Loop 20 at turning left onto westbound US 20. It is difficult to turn left due to poor visibility and heavy traffic.
    - Traffic on westbound Business Loop 20 should not be legally permitted to make an eastbound right on US 20 at the Western Junction.
    - Traffic on westbound US 20 should not be permitted to turn left onto Business Loop 20 Spur southbound towards downtown.
    - An interchange would be great at the Western Junction, but a roundabout or signal would also improve the intersection.
    - Add a roundabout surrounding the Dairy Queen.
    - The speed limit on US 20 should be reduced to 25 MPH.
- Many Open House attendees were concerned with Sturdevant Road.
    - The road is narrow and winding, with limited sight distance. The 45 MPH speed limit is too high given the conditions.
    - There are few walking/cycling paths along Sturdevant – creating a safety concern based on the amount of industrial traffic and the nearby Toledo Elementary and Jr./Sr. High Schools.
    - Improve the roadway to provide better freight access to the Siletz Kiln site and other prime industrial opportunity sites along the river south of SE 10th Street.

Freight Truck Needs

Attendees submitted the following comments on issues with freight truck routes:

- Improve signage to ensure all trucks use Sturdevant Road to access the Georgia-Pacific plant.
- Improve freight access to the Siletz Kiln site along Sturdevant Road.
- Business Loop 20 should not be a freight route between the Western Junction and downtown, except to access local businesses. Freight trucks accessing the Georgia-

Pacific plant and other destinations outside of downtown should use Business Loop 20 at the Eastern Junction.

Rail Needs

Attendees submitted the following comments on issues with rail facilities:

- Install crossing gates at Butler Bridge Road. This would require new rails and sensors along the spur line.
- Train horns are a nuisance. Consider quiet zones.
- Improve the condition of the rail line. There are frequent derailments along the track near East Slope Road/Butler Bridge Road.
- Rail crossings are hazardous to pedestrians and cyclists on A Street/1st Street/Butler Bridge Road.
- More rail traffic would increase jobs and prosperity in Toledo.

Bicycle and Pedestrian Needs

Attendees provided the following comments on bicycle and pedestrian facilities:

- There were a number of comments about the lack of pedestrian and bicycle facilities north-south along Sturdevant Road and east-west between downtown and Sturdevant Road, especially considering access to Toledo Elementary and Jr./Sr. High Schools.
    - Provide a parallel path along Sturdevant Road for transportation and recreation for pedestrians and bicyclists.
    - Create a nature walk with interpretive/educational signage in Olalla Slough. Provide multiple access points to downtown and Sturdevant Road.
    - Create a pedestrian and bicycle crossing over slough to connect Sturdevant Road and downtown.
- Several comments related to improving access for bicyclists between Newport and Toledo along Yaquina Bay Road/Bay Boulevard.
    - Yaquina Bay Road south and west of Toledo lacks safe shoulders, bike lanes, or sidewalks for cycling, walking, and running. Expand the paved shoulder area.
    - Bay Boulevard is steep, which discourages some riders. Lincoln County submitted a grant application to construct a trail on an abandoned railroad bed to bypass the hill and provide an off-street path crossing Depot Slough and connecting Bay Boulevard to downtown Toledo.
    - The Bike Newport shop gets a lot of weekend and summer cyclists who rent bikes and/or pick up a local bike map. They send 200-300 riders a year out on Yaquina Bay Road towards Toledo because it is beautiful and safe. Encourage

more riders from Newport to travel to downtown Toledo, patronize local businesses.
    - There is no signage for bicyclists on Bay Boulevard to get to downtown Toledo. There should be clear signage at the intersection with Business Loop 20 directing cyclists to Main Street, benefiting local businesses.
- Build a pedestrian path along the rail line from Main Street to Bay Boulevard north of the Port of Toledo.
- Bicycle and pedestrian access along Business Loop 20 west of downtown is challenging because of the narrow road and lack of facilities. Add a sidewalk on Business Loop 20 between Dairy Queen and the bowling alley. An alternate bicycle route could utilize NW Sunset Drive and NW Dundon Road to get around portions of Business Loop 20.
- A long-distance multi-use trail along US 20 could provide connections to Newport and Corvallis.
- Increase crosswalk education and enforcement for drivers and pedestrians.
- Add wayfinding and signage for bicyclists and pedestrians in downtown Toledo. Include bicycle sharrows on designated bicycle routes to increase safety and encourage drivers and cyclists to share the road. Newport uses sharrows on its bicycle routes and has a template that Toledo could use.
- Publish a map of bicycle routes for locals and visitors.
- Extend the existing trail along East Slope Road west to Butler Bridge Road. This is the most obvious walking trail in Toledo.

Safety Issues

Attendees made the following comments on general transportation safety issues in Toledo:

- The intersection at Business Loop 20 and Main Street in downtown feels unsafe for all modes.
- Left turning trucks onto Business Loop 20 Spur southbound from US 20 westbound at Western Junction travel too fast.
- Turning north from Butler Bridge Road northbound to Main Street via SE 2nd Street eastbound requires two quick turns in succession. Once initial turn is made from Butler Bridge Road to 2nd Street, there is not enough distance to use the turning signal before the second turn, which is a safety concern.
- Two drivers have veered off the road on the west side of Business Loop 20 this year. Install a guard rail north of the bowling alley along Depot Slough.
- Add bollards at the railroad/pedestrian crossing on SE Butler Bridge Road so vehicles don't cross the tracks here.
- Add lighting on US 20 outside of Toledo city limits.
- Add lighting on Business Loop 20 west of downtown to the bowling alley.

Transit Needs

Attendees made the following comments about transit in Toledo:

- Add more roundtrip travel options to Newport.
- Increase frequency and duration of service to help those who work nights in Newport and need a reliable transit option home.
- The bus system should offer monthly and weekly passes. At the end of the month, hold a raffle with prizes from local businesses for those who have purchased monthly passes as an extra incentive to ride transit.
- Make transfers easier and less expensive between bus lines.
- Create a local shuttle/circulator with connections to regional transit providers.
- Add rail passenger service to Amtrak in Albany to provide service to the Willamette Valley.
- Create a water taxi or ferry between Toledo and Newport as an alternate route to US 20 and as a tourist draw.

Water and Pipeline Needs

Open House attendees added the following comments on water and pipeline facilities, including the Port of Toledo:

- Need more studies on river transportation and railroad involvement. Toledo could become an intermodal hub with import and export goods being transferred between boats, trucks, and trains at the Port of Toledo.
- The Port should work with Portland & Western Railroad and the National Oceanic and Atmospheric Administration (NOAA) in Newport to explore ways to increase commerce.
- Add a local boat ramp in Toledo accessible to downtown to increase economic development.
- Is there a need for gas pipeline service to Toledo? What supporting policies are required?
- Butler Bridge restricts river barge traffic that would serve new industrial expansion areas east of the bridge. Something to consider when the bridge is replaced?

Airport Needs

Attendees provided the following comments on the City's airport facility:

- Should the airport remain? Does it serve a need?
- The airport serves emergency medical helicopter evacuations, but it is difficult to access due to high winds and low visibility.

Other Comments

Some comments from attendees will not be addressed in the TSP because of the scope or nature of the comment. These comments are still important, however, and are included below and will be forwarded to the City of Toledo for further action:

- Create land-use and zoning policies to encourage development at the Western Junction to provide drivers on US 20 more visual cues to slow down. Designate that section of the highway as a special area to reduce speed limits depending on the results of speed surveys.
- Reduce the need to drive to local retail shops. Create a citywide program at local retail destinations to rent wheel carts to local shoppers in order to bring heavy purchases home up steep hills without requiring a car. Another program could offer delivery of purchases by local shopkeepers to local disabled or elderly customers who are not able to take large purchases home.
- A commercial fishing vessel based at the Port could sell fresh fish off the dock.
- Horse-drawn carriage rides in downtown would draw tourists and provide another way around downtown.
- Sunset Cruises and Mini-Love Boat tours on the Yaquina River would increase tourism.
- Downtown could use more benches for walkers.
- One commenter cited recent City fee increases as a reason why he/she would not support any projects that may further increase the cost burden on residents.
- People are not cleaning up after their pets. This is a big problem in the park by the new gazebo at the Post Office. Is it possible to assemble a group of volunteers to clean up that area? More visible bag stations, signage, and enforcement of the law are needed.

Demographic Information

Demographic information of the participants was collected, according to ODOT Title VI requirements. The identity of individuals was kept confidential and not associated with the general event sign up (which collected name and address). Providing answers to the questions was voluntary. The following information was collected from the attendees that submitted comment forms.

- **Race/ethnicity:** 7 Caucasian (not of Hispanic origin)
- **Language spoken at home:** 7 English
- **Gender Identity:** 2 male, 5 female
- **ZIP Code:** 7 for 97391

Open House #2 Materials

Review transportation project alternatives!

The City of Toledo is creating a plan for Toledo's transportation future and we want to hear from you! Come review and comment on project alternatives and policies. The City wants to hear from you!

Come to the last project Open House!

Tuesday, March 12, 2013

Children welcome!

4:00 to 6:00 pm, drop by anytime

(right before a City Council work session)

Toledo City Hall, Council Chambers (206 N Main St)

Special accommodations will be provided upon request. Please call 541-336-2247 by March 5.

Atender a una casa abierta para compartir tus ideas para el proyecto. Servicios de traducción estarán disponibles. Los niños son bienvenidos! Por favor llame al 541-336-2247 para pedir esta al 5 de Marzo.

Learn more at www.GettingAroundToledoOregon.org

Review transportation project alternatives!

The City of Toledo is creating a plan for Toledo's transportation future and we want to hear from you! Come review and comment on a set of projects and policy alternatives. The City wants to hear from you!

Come to the last open house!

Children are welcome

Tuesday, March 12th

4:00 to 6:00 pm, drop by anytime

(right before a City Council work session)

City Hall, Council Chambers

(206 N Main St)

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Learn more at www.GettingAroundToledoOregon.org

Getting Around Toledo, Oregon

Toledo Transportation System Plan (TSP) open house

Welcome! Tonight you can:

- Learn about the TSP project
- Tell us what you think about the proposed transportation projects and policies for Toledo
  - Fill out a comment form
  - Tell us the projects that should move forward first
- Talk to project staff members and ask questions
- Comparta sus ideas para el proyecto. Servicios de traducción estarán disponibles.

Why do a TSP?

- Required by the state
- Provides a long-term plan for transportation investments
- Identifies issues that need further study
- Sets transportation policy for the city
- Ensures coordination between transportation and land use planning

Steps to develop the TSP

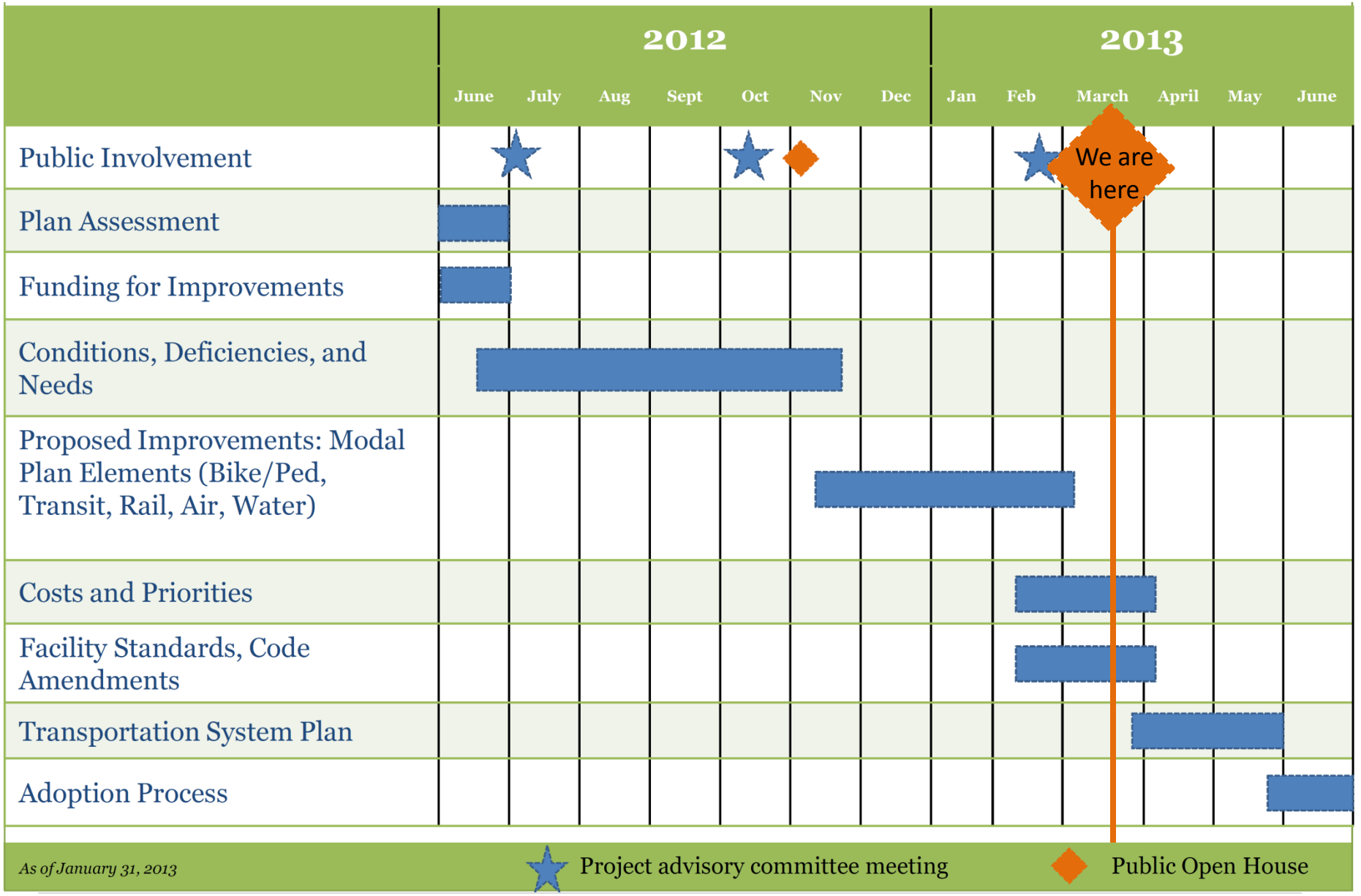
Public input throughout

Develop goals and policies → Understand conditions → Indentify possible alternatives and select preferred alternative

Develop cost estimates and priority strategy → We are here → Revise City standards and amend Code → Finalize and adopt the TSP

Public input throughout

What is the project schedule?



Who's involved?

- City of Toledo residents and businesses
- City of Toledo
- Oregon Department of Transportation (ODOT)
- Lincoln County
- Department of Land Conservation and Development

We want to hear from you!

- Do you agree or disagree with the proposed projects and policies?
- What are the top 5 projects to move forward?
- We want to hear from you:
  - Fill out a comment form
  - Use dot stickers to show which 5 street and bicycle/pedestrian projects should move forward first
  - Talk to a staff member

Getting Around Toledo, Oregon

Toledo Transportation System Plan (TSP) open house

Welcome! Tonight you can:

- Learn about the TSP project
- Tell us what you think about the proposed transportation projects and policies for Toledo
  - Fill out a comment form
  - Tell us the projects that should move forward first
- Talk to project staff members and ask questions
- Comparta sus ideas para el proyecto. Servicios de traducción estarán disponibles.

Study Area

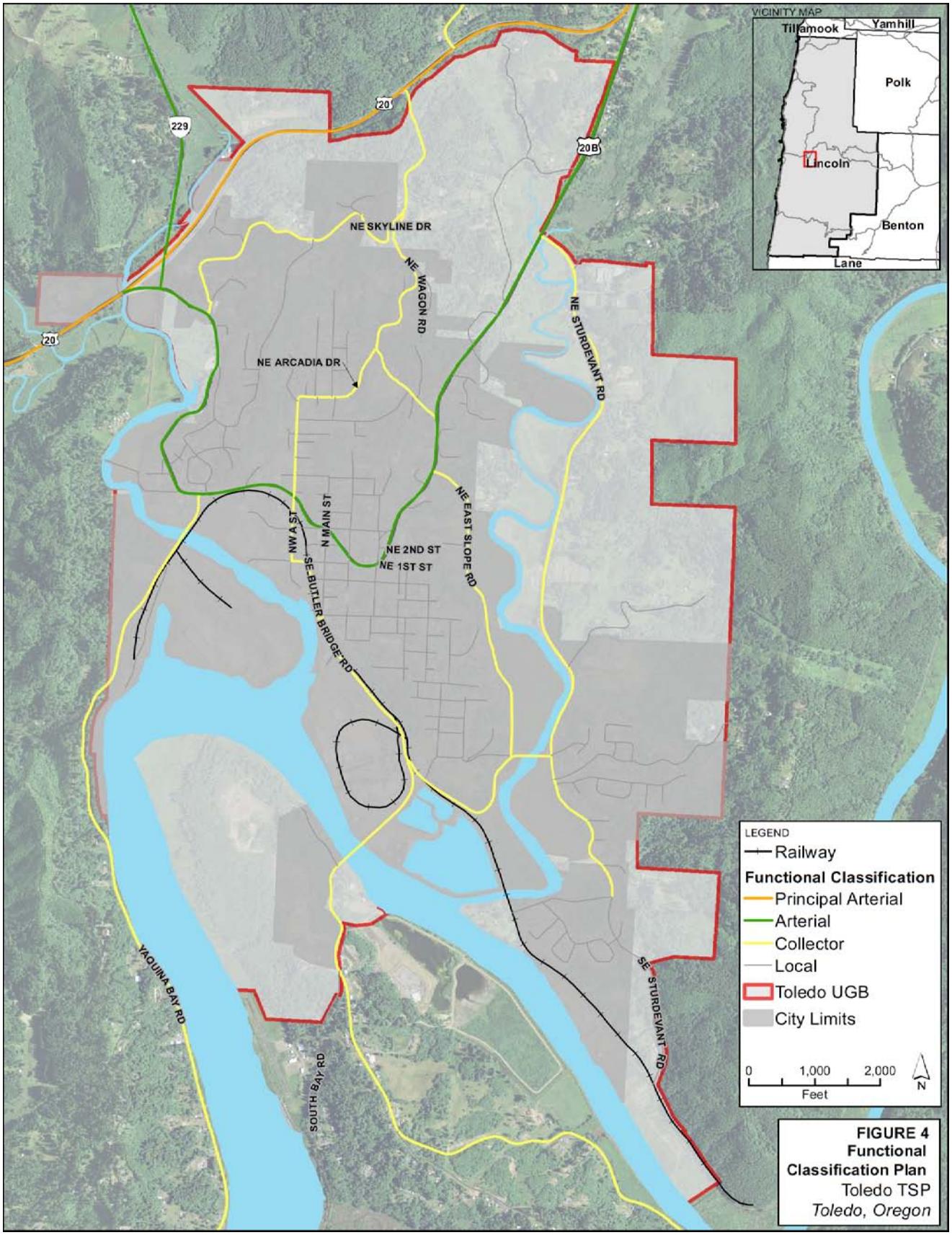


FIGURE 4
Functional Classification Plan
Toledo TSP
Toledo, Oregon

We want to hear from you!

- Do you agree or disagree with the proposed projects and policies?
- What are the top 5 projects to move forward?
- We want to hear from you:
  - Fill out a comment form
  - Use dot stickers to show which 5 street and bicycle/pedestrian projects should move forward first
  - Talk to a staff member

Road Projects

- Freight Alternatives
  - No recommended changes to the freight route
  - **R Project 1:** Add more wayfinding signs (including no truck signs)
  - **Freight Policy A:** Continue to support transportation access to heavy industrial sites in the City including the Siletz Kiln site to support economic development.
- Business Loop 20 at A Street
  - **R Project 2:** Add an eastbound right turn lane from Business Loop 20 to A Street and lengthen the turn lane for left turning vehicles onto A Street
- Burgess Road Realignment
  - **R Project 3:** Realign intersection to a 90 degree angle
- East Slope Road Realignment
  - **R Project 4:** At Business Loop 20 – allow freight trucks to use East Slope Road

Road Projects

- Sturdevant Road Realignment
  - **R Project 5:** South of 10th Street – allow large trucks to Siletz Kiln Site
- Pavement markings at Butler Bridge Road and NW 1st Street
  - **R Project 6:** Clarify which vehicles have the right-of-way and which vehicles need to stop.
- Western Junction Alternatives
  - **R Project 7:** No Build
  - **R Project 8:** Couplet Alternative
  - **R Project 9:** Interchange Alternative
  - **R Project 10:** Low-build Alternative
  - **R Project 11:** Offset T Alternative
  - **R Project 12:** Roundabout Alternative
  - **R Project 13:** Traffic Signal

Western Junction No Build and Couplet Alternatives

R Project 7: No Build Alternative

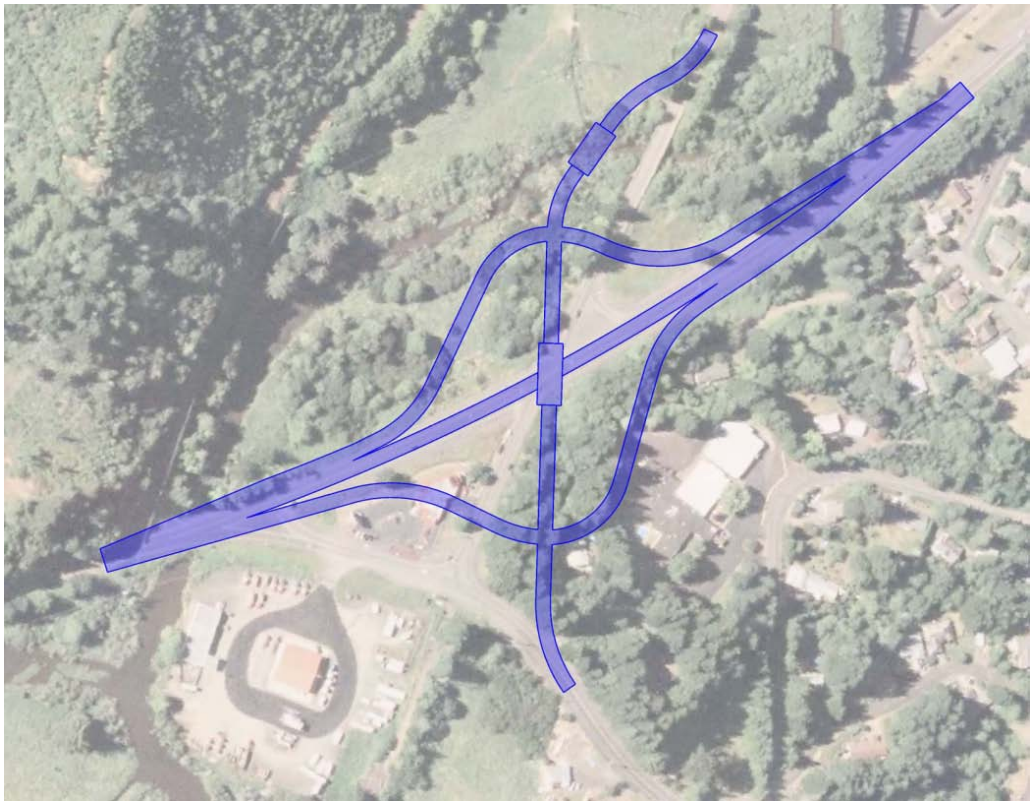
- Only upkeep and maintenance
- No additional cost
- Congestion and safety issues remain

R Project 8: Couplet Alternative

- Uses existing roads
- Congestion and safety issues remain
- Confusing in a rural setting

R Project 9: Western Junction Diamond Interchange Alternative

- Addresses congestion and safety issues
- Expensive
- Could have environmental impacts
- Out of scale with existing US 20
- Impacts to Dairy Queen



R Project 10: Western Junction Low Build Alternative

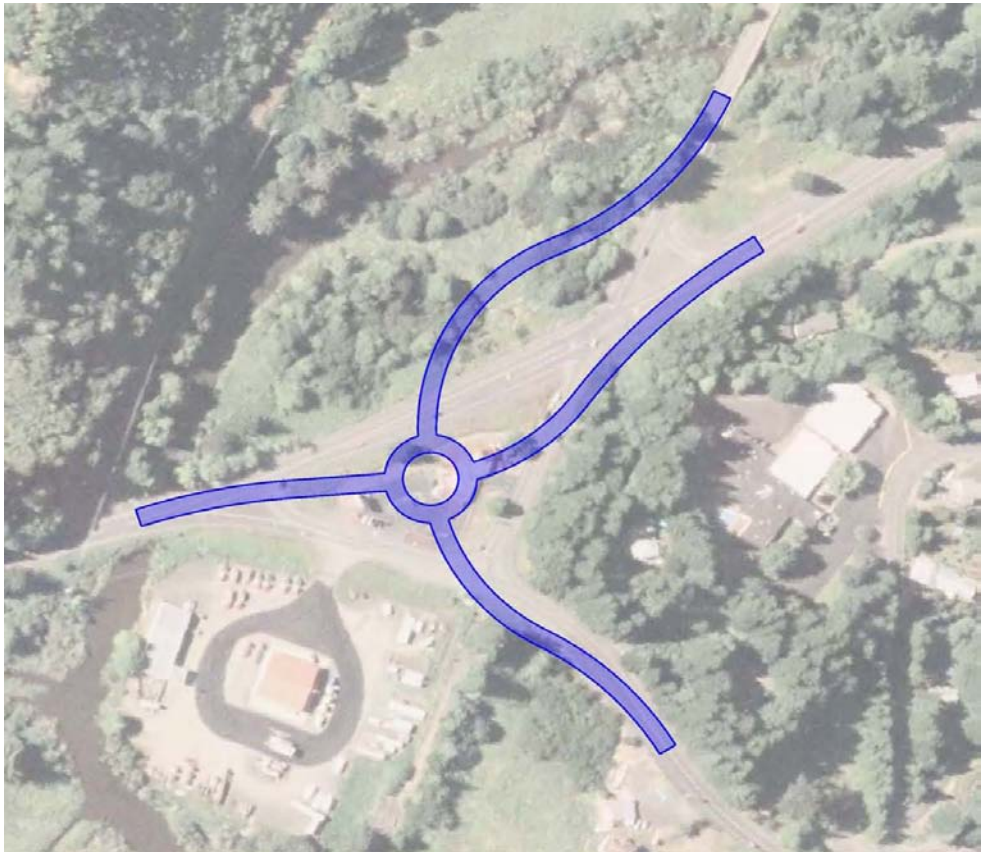
- Lowest cost alternative
- Backups would still happen on Business Loop 20
- Vehicles still cross US 20
- Could be an early phase for a larger project

R Project 11: Western Junction Offset T Intersections Alternative

- Consolidates Western Junction into 2 intersections
- Long queues for left turns from Business Loop 20 towards Newport
- Removes cross traffic from US 20, though left turns across highway remain

R Project 12: Western Junction Roundabout Alternative

- Reduces access points and vehicle conflict points
- Slows traffic on US 20 – impacts to Dairy Queen
- Removes all cross traffic from US 20, reduces severity of potential crashes



R Project 13: Western Junction Traffic Signal Alternative

- Addresses congestion on Business Loop 20
- Inconsistent with driver expectation on US 20
- Does not remove cross traffic on US 20 – potential for rear-end crashes and vehicles running the signal.
- Impacts to Dairy Queen

- Would widen US 20 to four lanes from Western Junction to Arcadia Drive

Road Projects Costs and Priorities

Project Description	Cost estimate	Priority
Freight Route Signage Improvements – Citywide	$12,000	Short-term
Business Loop 20 -Eastbound Right Turn Pocket at A Street	$449,000	Medium-term
Burgess Road – Realign road to 90-Degree Intersection at Business Loop 20	$298,000	Medium-term
East Slope Road - Improve Vertical Alignment For Freight Access	$635,000	Medium-term
Sturdevant Road –Realign road for Siletz Site Freight Access	$595,000	Long-term
Pavement Markings at Railroad Crossing – Butler Bridge Road and NW 1st Street Intersection	$1,000	Short-term
Western Junction Alternatives		
No Build Alternative	$0 outside of regular maintenance and upkeep	*N/A*
Couplet Alternative	*Did not improve traffic congestion or safety and would be out of character in the rural setting*	
Diamond Interchange Alternative	$9,846,000	Long-term
Low Build Alternative	$2,336,000	Medium-term
Offset T Alternative	*Did not improve traffic congestion or safety*	
Roundabout Alternative	$3,310,000	Long-term
Traffic Signal Alternative	$7,586,000	Long-term

Bicycle/Pedestrian Projects and Policies

- **Fill Sidewalk Gaps**
  - **B/P Project 1:** Burgess Road sidewalk extension to create a continuous sidewalk
  - **B/P Project 2:** Extend the sidewalk on Business Loop 20 from East Slope Road to Sturdevant Road.
  - **B/P Project 3:** Douglas Street/SE 3rd Street sidewalks around Community Center
  - **B/P project 4:** East Slope Road Sidewalk from the Park to Butler Bridge Road
- **Crosswalks,** could include signage, markings, and in some cases, flashing lights
  - **B/P Project 5:** High visibility crosswalks at Elementary and Junior/Senior High Schools
  - **B/P Project 6:** Add a crosswalk and signage to the Post Office
  - **B/P Project 7:** Discourage vehicles at the pedestrian railroad crossing at 2nd Street

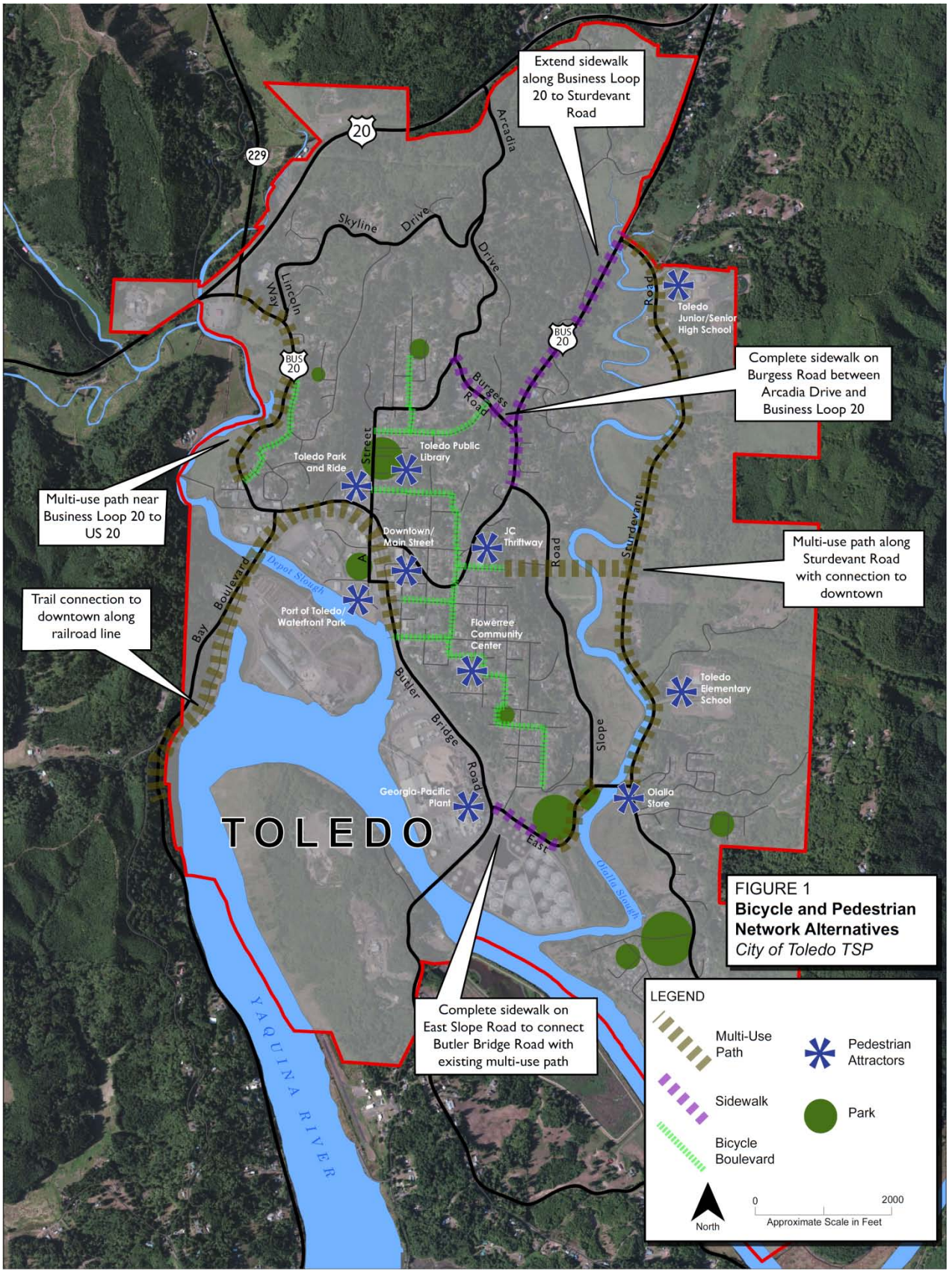
Bicycle/Pedestrian Projects and Policies

- **Trail Network** for both bicyclists and pedestrians:
  - **B/P Policy B:** Work with regional partners to look into an intercity multi-use trail
  - **B/P Policy C:** Work with community partners to explore a “volksmarch” route
  - **B/P Project 8:** Construct a trail along Bay Boulevard/Yaquina Bay Road using abandoned rail bed near the Port; City to work with Lincoln County and the Port to create alternatives to addresses safety concerns
  - **B/P Project 9:** Construct a multi-use path and/or boardwalk along Sturdevant Road, east-west connections across Olalla Slough could be included; could be a nature walk
  - **B/P Project 10:** Business Loop 20 multi-use trail or boardwalk facility on the west side of the road; could be a boardwalk over wetlands (near Depot Slough)

Bicycle/Pedestrian Projects and Policies

- **Bicycle Boulevards** are a network of local, neighborhood streets that prioritize active transportation modes
  - **B/P Policy D:** Implement bicycle boulevard network on residential streets with wayfinding signage and sharrows
- **Wayfinding Signs** can encourage visitors to explore downtown on foot or bike
  - **B/P Policy A:** Work to develop a pedestrian wayfinding system to encourage visitors to explore Toledo's attractions
  - **B/P Project 11:** Install bicycle wayfinding signs from Bay Boulevard into downtown
- **Other Bicycle and Pedestrian Policies**
  - **B/P Policy E:** Work with emergency services/schools to create an implement a bicycle/pedestrian/ driver safety education program to encourage safe walking, cycling and driving behavior
  - **B/P Policy F:** Address rough pavement at railroad crossings to create smooth railroad crossings for bicyclists and pedestrians

Bicycle and Pedestrian Projects



Bicycle and Pedestrian Projects Costs and Priorities

Project Description	Cost estimate	Priority
Fill Sidewalk Gaps – Burgess Road	$172,000	Medium-term
Business Loop 20 Sidewalk (South/East Side) – East Slope Road to Sturdevant Road	$1,093,000	Medium-term
Fill Sidewalk Gaps – Douglas Street and 3rd Street near the Community Center	$63,000	Medium-term
East Slope Road sidewalk extension	$551,000	Medium-term
Sturdevant Road High Visibility Crosswalks at Elementary and Junior/Senior High Schools	$68,000	Medium-term
Pedestrian Advisory signs – Butler Bridge Road and 1st Street intersection	$37,000	Short-term
Railroad Pedestrian Crossing Improvements to Discourage Automobile Use - Butler Bridge Road at SE 2nd Street	$11,000	Short-term
Bay Boulevard/Yaquina Bay Road bike path	XXXXX	Long-term
Sturdevant Road Multi-Use Path /Boardwalk	$4,227,000	Medium-term
Business Loop 20 Path (South/West Side) – US 20 to NW 6th Avenue	$2,342,000	Long-term
Bicycle Wayfinding signs – Bay Boulevard	$10,000	Short-term

Transit Projects and Policies

- Lincoln County Transit manages transit service.
  No recommended projects.
- Recommended Transit policies:
  - **T Policy A:** Maintain partnership to support new investments in transit service and infrastructure; identify new funding sources
  - **T Policy B:** Work with Toledo Chamber of Commerce/others to explore citywide transit shuttle or circulator
  - **T Policy C:** Identify local and regional partners to explore a water taxi or ferry service to Newport

Freight Rail Projects and Policies

- The rails are owned by Portland and Western Railroad (PNWR). No recommended projects.
- Recommended Freight Rail policies:
  - **FR Policy A:** Coordinate meetings with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to address crossing conditions
  - **FR Policy B:** Develop evaluation criteria (to prioritize public crossing investments) and generate a ranked improvement list (in order of greatest importance)
  - **FR Policy C:** Work with ODOT Rail and the Federal Railroad Administration to explore a "Quiet Zone" in Downtown
  - **FR Policy D:** Pursue proposed intermodal hub at Tokyo Slough with the Port of Toledo, to add potential freight rail customers
  - **FR Policy E:** Work with railroad to reduce idling train engines near Downtown businesses
  - **FR Policy F:** Work with partners to support and maintain the freight rail connection to Toledo from the I-5 Corridor

Airport/Pipeline Projects and Policies

- Airport
  - There are no changes expected to the airport, with the possible exception of its sale and potential closure.
  - **Air Policy A:** Work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City if the airport closes
- Pipeline
  - There are no plans or need to expand pipelines in Toledo within the 20 year planning horizon of the TSP.
  - **Pipeline Policy A:** Continue to support the Mill's effluent pipeline and work with partners to maintain applicable environmental permitting

Water/Port Projects and Policies

- The Port's *Boatyard Buildout Plan*, includes these projects:
  - **W/P Project 1:** New pier and replace piles for travel lift, construct wash down pad, relocate utilities, purchase travel lift
  - **W/P Project 2:** Upgrade site access road, realign utilities, and develop cargo transfer and vessel hard moorage areas
  - **W/P Project 3:** Construct vessel work building, new boatyard office and restrooms
- Water/Port Policies
  - **W/P Policy A:** Conduct a bridge life cycle assessment and explore the cost of rebuilding/ altering the Butler Bridge to accommodate taller barges and boats
  - **W/P Policy B:** Work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site
  - **W/P Policy C:** Explore developing a pier at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel
  - **W/P Policy D:** Explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown
  - **W/P Policy E:** Make the Intermodal hub (linking water, rail, and freight truck modes) a high priority for the City

Which 5 road projects should move forward first?

Road Projects	Put your dot stickers
R Project 1: Citywide freight sign improvements	
R Project 2: Business Loop 20/A Street turn pocket	
R Project 3: Burgess Road Realignment at Business Loop 20	
R Project 4: Improve vertical curves on East Slope Road for freight	
R Project 5: Sturdevant realignment for Siletz Site access	
R Project 6: Pavement markings at Butler Bridge Road and NW 1st Street	
R Project 7: Western Junction No Build	
R Project 8: Western Junction Couplet Alternative	
R Project 9: Western Junction Interchange Alternative	
R Project 10: Western Junction Low Build Alternative	
R Project 11: Western Junction Offset T Alternative	
R Project 12: Western Junction Roundabout Alternative	
R Project 13: Western Junction Traffic Signal Alternative	

Which 5 bicycle and pedestrian projects should move forward first?

Bicycle/Pedestrian Projects	Put your dot stickers
B/P Project 1: Burgess Road sidewalk extension	
B/P Project 2: Business Loop 20 sidewalk between East Slope Road and Sturdevant Road	
B/P Project 3: Community Center sidewalks (Douglas/3rd Streets)	
B/P Project 4: East Slope Road Sidewalk from Park to Butler Bridge Road	
B/P Project 5: High visibility school crosswalks at schools	
B/P Project 6: Post Office crosswalk/signage	
B/P Project 7: Discourage vehicles at the pedestrian railroad crossing at 2nd Street	
B/P Project 8: Bay Boulevard/Yaquina Bay Road bike path	
B/P Project 9: Sturdevant Road path/boardwalk	
B/P Project 10: Business Loop 20 trail/boardwalk, Western Junction to NW 6th Street	
B/P Project 11: Bicycle wayfinding signs	

Do you support the following policies?

Policies	YES	NO
Freight Policy A: Continue to support transportation access to heavy industrial sites in the City including the Siletz Kiln site to support economic development		
Bike/Pedestrian (B/P) Policy A: Work to develop a pedestrian wayfinding system to encourage visitors to explore Toledo's attractions		
B/P Policy B: Work with regional partners to look into an intercity multi-use trail		
B/P Policy C: Work with community partners to explore a "volksmarch" route		
B/P Policy D: Implement bicycle boulevard network on residential streets with wayfinding signage and sharrows		
B/P Policy E: Work with emergency services/schools to create an implement a bicycle/pedestrian/ driver safety education program to encourage safe walking, cycling and driving behavior		
B/P Policy F: Address rough pavement at railroad crossings to create smooth railroad crossings for bicyclists and pedestrians		
Transit (T) Policy A: Maintain partnership to support new investments in transit service and infrastructure; identify new funding sources		
T Policy B: Work with Toledo Chamber of Commerce/others to explore citywide transit shuttle or circulator		
T Policy C: Identify local and regional partners to explore a water taxi or ferry service to Newport		
Air Policy A: Work with partners (including emergency service providers) to identify an alternate Life Flight landing site in the City if the airport closes		
Pipeline Policy A: Continue to support the Mill's effluent pipeline and work with partners to maintain applicable environmental permitting		

Do you support the following policies?

Policies	YES	NO
FR Policy A: Coordinate meetings with ODOT Rail, Lincoln County, Georgia Pacific, and PNWR to address crossing conditions		
FR Policy B: Develop evaluation criteria (to prioritize public crossing investments) and generate an improvement list (in order of greatest importance)		
FR Policy C: Work with ODOT Rail and the Federal Railroad Administration to explore a "Quiet Zone" in Downtown		
FR Policy D: Pursue proposed intermodal hub at Tokyo Slough with the Port of Toledo, to add potential freight rail customers		
FR Policy E: Work with railroad to reduce idling train engines near Downtown businesses		
FR Policy F: Work with partners to support and maintain the freight rail connection to Toledo from the I-5 Corridor		
W/P Policy A: Conduct a bridge life cycle assessment and explore the cost of rebuilding/ altering the Butler Bridge to accommodate taller barges and boats		
W/P Policy B: Work with the Port of Toledo and other partners to help identify an appropriate dredge spoils site		
W/P Policy C: Explore developing a pier at the entrance to Depot Slough on Georgia-Pacific property to take advantage of the dredged river channel		
W/P Policy D: Explore the possibility of a recreational (non-motorized) boat launch on the waterfront near downtown		
W/P Policy E: Make the Intermodal hub (linking water, rail, and freight truck modes) a high priority for the City		

Next Steps

- After tonight, the project team will:
  - **Read and consider the comments** collected here, online, and mailed to the City before 3/19/13
  - **Write a draft TSP** that will describe all of the projects and policies, including **those to move forward first** and **those that can wait** for more funding
  - **Present the draft TSP to the Project Advisory Committee, City Council, and Planning Commission**; make changes and **adopt the final TSP**

Your feedback is a vital part of the planning process! Before you leave, please fill out this comment form and put it in the comment box. *(Use the back of the sheet if you need more room.)*

Proposed Projects and Policies

Do you agree or disagree with the projects and policy alternatives shown tonight?

Bike/Pedestrian: ☐ Agree ☐ Unsure/NA ☐ Disagree, why: _____

Port/Water/Air/Pipe: ☐ Agree ☐ Unsure/NA ☐ Disagree, why: _____

Freight Rail/ Trucks: ☐ Agree ☐ Unsure/NA ☐ Disagree, why: _____

Cars/Roads: ☐ Agree ☐ Unsure/NA ☐ Disagree, why: _____

Priorities

What are the top 5 projects that should move forward first?

Project #1 _____

Project #2 _____

Project #3 _____

Project #4 _____

Project #5 _____

Other comments

Do you have any other comments? Is there anything else you want to tell us?

_____

_____

_____

_____

_____

_____

Optional information

How did you hear about this open house? (check all that apply) ☐ Poster/Flyer ☐ News Article ☐ Word of Mouth ☐ TV/Radio ☐ Email update ☐ Other: _____

This project is requesting demographic information at public events to evaluate the effectiveness of public outreach activities. **The identity of individuals is kept confidential.** The results are reported as totals only, and **used solely to help improve future community engagement.** Providing this information is voluntary and optional.

Check all that apply.

Race/Ethnicity

- ☐ African-American (not of Hispanic origin)
- ☐ Caucasian (not of Hispanic origin)
- ☐ Hispanic
- ☐ American Indian or Alaskan Native
- ☐ Asian or Pacific Islander
- ☐ Other: _____
- ☐ Unknown/Decline

Language Spoken at Home

- ☐ English
- ☐ Spanish
- ☐ Other:_____
- _____
- ☐ Decline

Household Income/Yr

- ☐ Less than $23,000
- ☐ $23,000 - $33,000
- ☐ $33,000 - $43,000
- ☐ $43,000 - $53,000
- ☐ More than $53,000
- ☐ Decline

Year born

_____

☐ Decline

ZIP code

_____

Please return before March 19, 2013: **mail** to Adam Denlinger, City Hall/ PO Box 220/ Toledo, OR 97391; **fax** 503-736-2074; or **submit** using the comment form at www.GettingAroundToledoOregon.org.

Toledo Transportation System Plan
Open House #2 Summary

Tuesday, March 12, 2013
4-6 p.m.
Toledo City Hall

This document provides a summary of the Toledo Transportation System Plan Open House held March 12th at Toledo City Hall. The purpose of this open house was to present and gather public input on the transportation system alternatives presented by the project team, including specific projects and policies for the road, bicycle and pedestrian, freight, rail, transit, port/water, air, and pipeline networks. Twenty people signed in the night of the event.


Attendees at the second Toledo TSP Open House

The open house format was an informal drop-in open house. Visitors had the opportunity to view study area maps and read display boards that included findings gathered for the most recent project memoranda:

- Technical Memo #4, Transportation System Proposed Improvements
- Technical Memo #5, Local Pedestrian and Bicycle System
- Technical Memo #6, Local Transit System
- Technical Memo #7: Rail, Air, Water/Port, and Pipeline Systems
- Technical Memo #8: Costs and Priorities for Transportation System Improvements

Additionally, community members had the opportunity to share concerns about project alternatives, indicate their approval or disapproval with specific projects and policies, and complete project comment sheets (to leave in the comment box or mail back to the project by March 19).

Open House Notification

The Open House was announced to the public through a variety of outlets. Flyers for the Open House were posted to businesses around Toledo and at City Hall two weeks before the event, as well as being distributed to the Project Advisory Committee on February 21st. The same information was published in the City's monthly utility mailer, which is distributed to all residents and businesses. A press release was distributed by the City of Toledo to local media outlets. The Newport News Times ran a short article about the project before the event in their March 6, 2013 issue. Project Advisory Committee members and other key stakeholders were called a week before the event and invited to attend by City staff. Finally, a letter was sent by the City to residents on Western Loop as project alternatives at the Western Junction include potentially closing Western Loop at US 20.

Open House Stations

The Open House included the following stations:

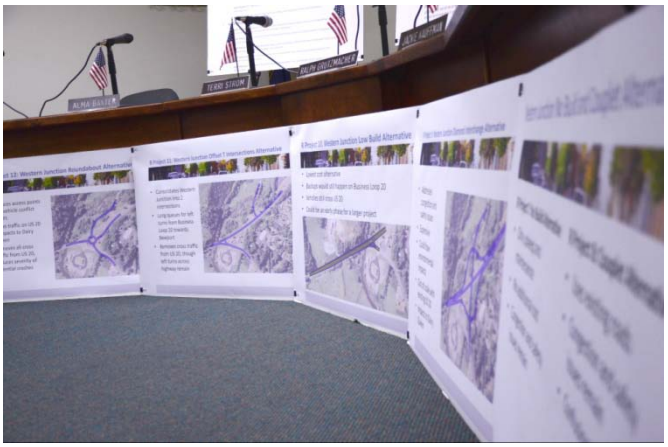
- ***Welcome and Sign-In –*** A staff person introduced visitors and explained the format of the event. Comment forms were available and the participants signed in, as a way to count attendees and to increase the mailing list for future announcements.

- ***Open House Overview (rotating Power Point presentation)–*** The overview included information about who is involved in the TSP, the schedule, the steps taken to complete the TSP, and the purpose of the TSP.

- ***Proposed Projects and Policies –*** The display boards in this area summarized the key findings from each of the technical memorandums #4 through #8. The boards included the proposed projects and policies, if applicable, for roads, bicycle and pedestrian alternatives, transit, freight truck, freight rail, water, pipelines, and the airport. Other information on projects included cost estimates and recommended priority for the projects. The seven Western Junction alternatives were highlighted individually with the description, diagram, benefits and drawbacks.

Project staff explains proposed bicycle and pedestrian projects to attendees

- ***Feedback –*** These board provided visitors the opportunity to provide feedback to the project team on the proposed projects and policies. On two of the boards, attendees were asked to indicate whether they agreed or disagreed with a list of proposed policies. Two other boards asked attendees which five road and bicycle/pedestrian projects they wanted to see move forward first.



Western Junction alignment alternatives

- ***Next Steps–***This board described how comments received during the Open House would be incorporated into the next phase of the planning process. The Project Team will develop the draft TSP including projects and policies for the City over the next 20 years. The draft TSP will be presented to the PAC, City Council, and Planning Commission where additional changes will be made prior to adoption of the final TSP.

Summary of Comments

The following section is a summary of comments received during the Open House. These comments were submitted via the project comment sheets, the project website, easel boards, and through conversations with project staff. The result of the feedback boards are also presented below.

Project Feedback

Attendees placed dot stickers on two boards with road and bicycle and pedestrian projects to indicate which 5 projects should move forward first. Projects that did not receive any dots are not included in the list below. The projects with dots include:

Project	Number of dots
Road (R) Project 1: Citywide freight sign improvements	1
R Project 2: Business Loop 20/A Street Turn Pocket	1
R Project 7: Western Junction No Build	8
R Project 10:Western Junction Low Build Alternative	1
R Project 11: Western Junction Offset T Alternative	1
R Project 13: Western Junction Traffic Signal Alternative	5
B/P Project 2: Business Loop 20 sidewalk between East Slope Road and Sturdevant Road	1
B/P Project 4: East Slope Road Sidewalk from Park to Butler Bridge Road	1
B/P Project 5: High visibility school crosswalks at schools	1
B/P Project 9: Sturdevant Road path/boardwalk	1
B/P Project 10: Business Loop 20 trail/boardwalk, Western Junction to NW 6th Street	1

Policies Feedback

Attendees were asked to mark which policies they agreed with – there were two columns, one YES and one NO. The results are below:

Policies	Support (Yes/No)
Freight Truck Policy A: Continue to support transportation access to heavy industrial sites in the City including the Siletz Kiln site to support economic development	2 Yes
Bike/Pedestrian (B/P) Policy A: Work to develop a pedestrian wayfinding system to encourage visitors to explore Toledo's attractions	3 Yes
B/P Policy B: Work with regional partners to look into an intercity multi-use trail	Question mark
B/P Policy C: Work with community partners to explore a "volksmarch" route	1 Yes
B/P Policy D: Implement bicycle boulevard network on residential streets with wayfinding signage and sharrows	1 Yes

Policies	Support (Yes/No)
B/P Policy E: Work with emergency services/schools to create and implement a bicycle/pedestrian/driver safety education program to encourage safe walking, cycling and driver behavior	1 Yes
B/P Policy F: Address rough pavement at railroad crossings to create smooth railroad crossings for bicyclists and pedestrians	4 Yes
Transit (T) Policy A: Maintain partnership to support new investments in transit service and infrastructure; identify new funding sources	2 Yes
T Policy B: Work with Toledo Chamber of Commerce/others to explore citywide transit shuttle or circulator	3 Yes
T Policy C: Identify local and regional partners to explore a water taxi or ferry service to Newport	3 Yes
Air Policy A: Work with partners (including the emergency service providers) to identify an alternate Life Flight landing site in the City if the airport closes	2 Yes
Pipeline Policy A: Continue to support the Mill's effluent pipeline and work with partners to maintain applicable environmental permitting	2 Yes
Freight Rail (FR) Policy A: Coordinate meetings with ODOT Rail, Lincoln County, Georgia-Pacific, and PNWR to address crossing conditions	2 Yes
FR Policy C: Work with ODOT Rail and the Federal Railroad Administration to explore a "Quiet Zone" in Downtown	1 No
FR Policy D: Pursue proposed intermodal hub at Tokyo Slough with the Port of Toledo, to add potential freight rail customers	2 Yes
W/P Policy D: Explore the possibility of a recreational (non-motorized) boat lunch on the waterfront near downtown	2 Yes

Western Junction Alternatives

Attendees provided the following comments on the Western Junction Alternatives:

- A representative from Dahl's Disposal had concerns about the Low Build alternative which includes a median on US 20. The median could potentially restrict left turns coming into or out of the Dahl property.
- All of the Western Junction build alternatives recommend closing Western Loop to simplify the complicated intersection and reduce safety concerns. A number of Open House #2 attendees live on Western Loop and provided the following feedback and concerns with closing Western Loop at US 20:

  - Closing Western Loop would require residents to travel out of direction to OR 229 to get to US 20, or access their houses.
  - Concerns about the ability for a fire truck or large vehicle (such as an RV) to turn around on Western Loop if the road were closed.
  - Concerns with additional emergency (fire and ambulance) response time if Western Loop was closed at US 20.
  - The existing problems with illegal dumping at the south end of Western Loop may get worse if US 20 access is closed.
  - Residents were concerned that making a left or right turn onto OR 229 from Western Loop was difficult due to vehicles speeding and passing illegally.
  - One resident's driveway is angled in a way that requires him to go south on Western Loop towards US 20. If the access closes, he would need to turn around to get to OR 229 and US 20 or to access his property.
  - These participants favored the No-Build option for Western Junction as it would keep Western Loop open at US 20.
  - One participant listed on a comment form that all of the other road projects except Western Junction were a high priority.
- Several attendees indicated that addressing the safety and congestion issues at Western Junction was the highest priority for transportation system improvements.
- Another attendee commented that the roundabout alternative would feel out of place in a rural setting, and it would be difficult for trucks to travel through roundabout.
- Attendees asked why the signal alternative had such a high cost estimate. Project staff responded that the signal would require four lanes (2 through lanes in each direction), and US 20 would need to be widened to four lanes consistently back to Arcadia Drive.
- One attendee was concerned about access to her driveway on the US 20 spur and potential property impacts with the Roundabout, Traffic Signal, Offset-T Alternatives and Interchange Alternatives.
- In a written letter received after the open house, a property owner along Western Loop provided an additional concept at the Western Junction. He recommended expanding the study area to include a greater portion of US 20 and OR 229 north of the Western Junction. His concerns with the existing options included the high cost for the interchange and signal alternatives, business impacts to Dairy Queen and Dahl's Disposal, wetland impacts, and increase in traffic noise. In addition, the interchange option may reduce access to his property from OR 229. The individual proposed a new option with the following phases:
  - Reduce the speed limits on US 20 and OR 229 by 10 mph and implement no passing zones along OS 229 north to Western Loop
  - Add a traffic signal at the US 20/OR 229 intersection and construct new left turn lanes

- Convert Business Loop 20 to eastbound only traffic between US 20 and Business Loop 20 Spur, with westbound traffic using the spur to access US 20.

Freight Truck Traffic and Routes

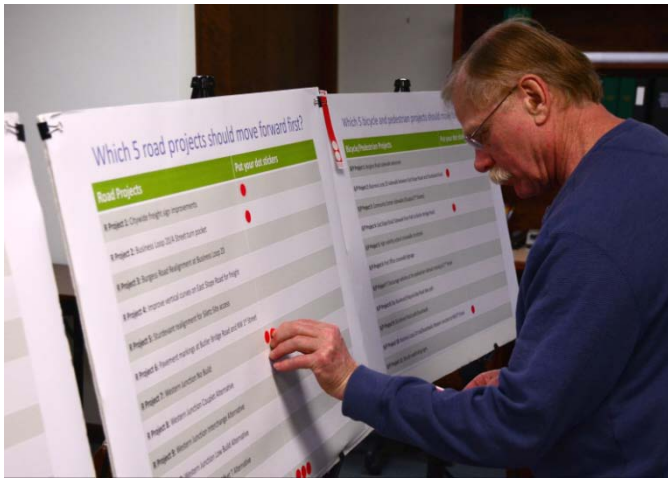
Attendees made the following comments on freight truck traffic and route issues:

- Trucks traveling along OR 229 towards US 20 use jake brakes which can be loud for nearby residents. Post signs restricting jake or compression brakes (*Note: This area is outside of the TSP study area. the Toledo City Limits, and the UGB).*
- Install pavement markings directing freight traffic to correct routes.
- Install physical height barriers for trucks on non-truck routes to deter freight trucks on local streets. This could include installing hanging chains (like at construction sites) or a more permanent solution.

Safety Concerns

Attendees made the following comments on safety issues:

- Increase the visibility of the flashing traffic signal at US 20 and OR 229 by raising its height.
- High vehicle speeds on US 20 near Western Junction was a major concern for most attendees. Physical changes to the road or visual cues are more effective than lowering the speed limit, as drivers are unlikely to obey a sign without any visual or physical changes to reduce speed.



An open house attendee places stickers to indicate priority of proposed projects

Bicycle and Pedestrian Needs

Attendees and visitors to the website made the following comments on bicycle and pedestrian facilities:

- One attendee said that bicycle/pedestrian improvements on Business Loop 20 outside the city limits were a high priority.
- Online commenter supported the Yaquina Bay Road/Bay Boulevard multi-use path as a connection for cyclists into Toledo.

- Yaquina Bay Road is a popular route for bicycle tourism, but there is a gap between the bicycle lanes on the western part and the east end of the route as you approach Toledo.
- A multi-use path would encourage recreational day-trip cyclists to visit Toledo and visit local businesses. One commenter noted that some visitors avoid the difficult section of Yaquina Bay Road by driving to a point west of Toledo before riding to Newport and back.
- Long-distance riders approaching Toledo from points east bypass the City on the way to Newport. Constructing the trail and installing signage along US 20 could encourage cyclists to ride through Toledo to support economic development.
- The path would improve the safety and comfort of pedestrians, bicyclists, and drivers. Yaquina Bay Road is narrow with limited visibility, creating the opportunity for close calls between motorists and cyclists.

Transit Needs

One attendee mentioned the need for Lincoln County Transit to update the bus schedules in the shelters. The Project Team promised to forward the comment to Lincoln County Transit.

Freight Rail Network

One attendee disagreed that restrictions on freight train traffic were necessary, such as prohibiting idling trains or instituting a quiet zone in downtown.

Demographic Information

The comment form included questions about demographic information according to ODOT Title VI requirements. The responses were confidential and not associated with the general event sign in (which collected names and addresses). Providing answers to the questions was voluntary.

- **Race/ethnicity:** 3 Caucasian (not of Hispanic origin)
- **Language spoken at home:** 3 English
- **Household Income/Yr:** 2 with More than $53,000/yr
- **ZIP Code:** 3 for 97391

Comments Received by Mail

City of Toledo and Oregon Dept. of Transportation
Toledo City Hall
P.O. 220
Toledo, Oregon 97391
Care of Adam Denlinger

March 19, 2013

Subject: Western Junction Traffic Interchanges

To All Interested Parties,

Why I am Concerned

I am a resident on Western Loop [redacted] located between Western Loop and Highway 229. My pasture, and access to it, would be affected by one or more of the present options. I am told the south end of Western Loop may be closed which would affect myself and my neighbors. My colleague and past office mate was killed at the intersection of Hwy's 20 and 229. Another Hwy 229 fatality occurred on my property just north of the Hwy's 20 and 229 intersection. Also there have been one or more fatalities at the northern intersection of Western Loop and Hwy 229, and several other accidents have occurred on Hwy 229 between the Western Loop intersection and Hwy 20 intersection.

The Scope of the Western Junction Project Should Be Expanded

Presently the goal of the this aspect of the project appears to be focused on safety and traffic congestion going into and out of Toledo at the western junction. Because the City of Toledo has annexed additional properties north of Hwy 20 (the northern urban growth boundary) near the western junction (i.e. Dahl Disposal, All-Storage) I believe it is the duty of the City to consider the effects of these highway options on these areas. The area of concern should extend from the last curve on Hwy 20 just west of Christiansen road to the curve just east of the All-Storage facility. There have been a number of accidents between the west curve (Christiansen Rd) and Western Loop, especially at the Dahl Disposal facility entrance. The entrance to the All-Storage facility is dangerous due to the curve east of it. In addition the city should consider the safety and access issues on Hwy 229 between the north exit of Western Loop and Hwy 20 intersection that presently exist and those that would be created under the various options.

Closing the Western Loop South Intersection

I received a letter stating that the south entrance to Western Loop may be closed under these alternatives. There are several concerns to closing the south end of Western Loop. They include safety, inconvenience to residents, and dumping issues.

Safety

The north exit from Western Loop has traffic safety issues. There has been at least one fatality in recent years at this intersection. Turning right onto Hwy 229 is a safely issue when north bound vehicles on 229 are passing other vehicles. Also there is a curve on Hwy 229 just south of the northern Western Loop

intersection which makes turning north off Western Loop onto Hwy 229 dangerous as oncoming traffic is not seen until they are just about to the intersection.

Inconvenience

The closure would be an inconvenience to Western Loop residents who would need to head north to Hwy 229 in order to travel to Newport and Toledo. Some residents also have driveways that face the south Western Loop exit to Hwy 20. They would have to travel south then turn around and head north on Western Loop.

Dumping

As the first farm north of Hwy 20 on Western Loop I already have a dumping issue on my property. This is largely due to the near proximity to Dahl Disposal. The reasons likely reflect the cost to dispose and also convenience when the dump is closed. I feel this situation will get worse if there is no through traffic on Western Loop and a barricade is located at the south end of the road as the isolation will provide further opportunity to dump without being caught in the act.

Concerns with Existing Options

There are many concerns with the present options. They include economic (cost), effects on local businesses (Dairy Queen, Dahl Disposal), environmental (flooding, noise pollution), and various issues mentioned above affecting Western Loop residents.

Economic costs

The costs to develop the Diamond Interchange and Traffic signal alternatives appear excessive.

Effect on Local Business

Alternatives Diamond Interchange, Traffic signal, and Roundabout would be detrimental to the Dairy Queen. The Low Build alternative would prevent access to the Dahl Disposal.

Environmental flooding

Several alternatives involve filling the flood plain between Hwy 20 and Depoe Slough just west of Hwy 229. Filling would affect several farms in the Drainage District. Due to heavy rains and tidal influences the area is very sensitive to filling which increases the magnitude of flooding. The area is also Coho salmon habitat which is presently considered threatened under the Endangered Species Act. Further loss of habitat through filling would have to be mitigated. These alternatives include the Diamond Interchange, Roundabout, and Traffic signal as proposed.

Environmental Noise Pollution

The Diamond Interchange and Roundabout alternatives will likely increase traffic noise levels. We already have an existing noise issue with truck air brakes.

Loss of Pasture Access

The Diamond Interchange alternative would reduce the usable area of my pasture and eliminate my only highway access, which is on Hwy 229. The grade is too steep to develop an access point off Western Loop and I only have a narrow strip of property along Hwy 229. Most of the pasture adjacent to Hwy 229 belongs to my neighbors.

Couplet Alternative

I can't comment on this alternative as no information was provided.

Keep It Simple Alternative

I would like to offer an alternative option that is cost effective, achieves safety and traffic congestion goals, and could be implemented immediately.

Phase One

Probably the one change that would immediately improve safety would be to reduce the speed limits (1) on Hwy 20 between the last curve west of Christiansen road to the curve just east of the All-Storage facility and (2) on Hwy 229 between the Hwy 20 intersection and the north Western Loop intersection. I suggest reducing the speed limit on Hwy 20 from 45 to 35 miles per hour. I recommend reducing the speed limit on Hwy 229 from 55 miles per hour to 45 mph. Also the double yellow lines (no passing) should be expanded to cover the entire area on Hwy 229 between the Hwy 20 and Western Loop intersections.

Phase Two

If safety and traffic congestion remains a problem, I recommend installing a four way traffic signal to replace the existing flashing signal at the intersection of Hwy's 229 and 20. This would not require any change to existing road locations. It would require widening Hwy 229 at the Hwy 20 intersection for adding left turn lanes.

Phase Three

If necessary to further reduce traffic congestion, the present Business 20 exit into Toledo could be made a one-way exit from Hwy 20. West bound Business 20 traffic would be routed through the Hwy 229 and 20 intersection traffic signal. Traffic could be allowed going west on Business 20 only as far as the Dairy Queen and truck storage entrances.

Recommendations

I recommend the scope of the Western Junction project be expanded to cover more of Hwy 20 and Hwy 229.

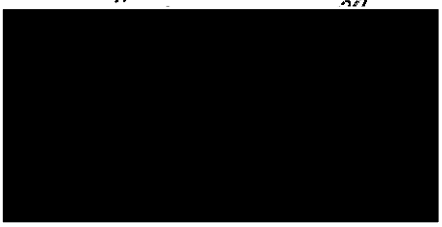
I recommend the cost effective, least disruptive "Keep It Simple Alternative" be included in the alternatives. Also that it, or parts of (i.e. speed limits), be implemented as soon as possible to address existing safety and traffic congestion concerns.

Closing of the Western Loop southern access is not recommended.

Also, I support developing a sidewalk on Business 20 between the Dairy Queen and the Bowling alley on a fast track. This is a very dangerous area for pedestrians and bicyclists.

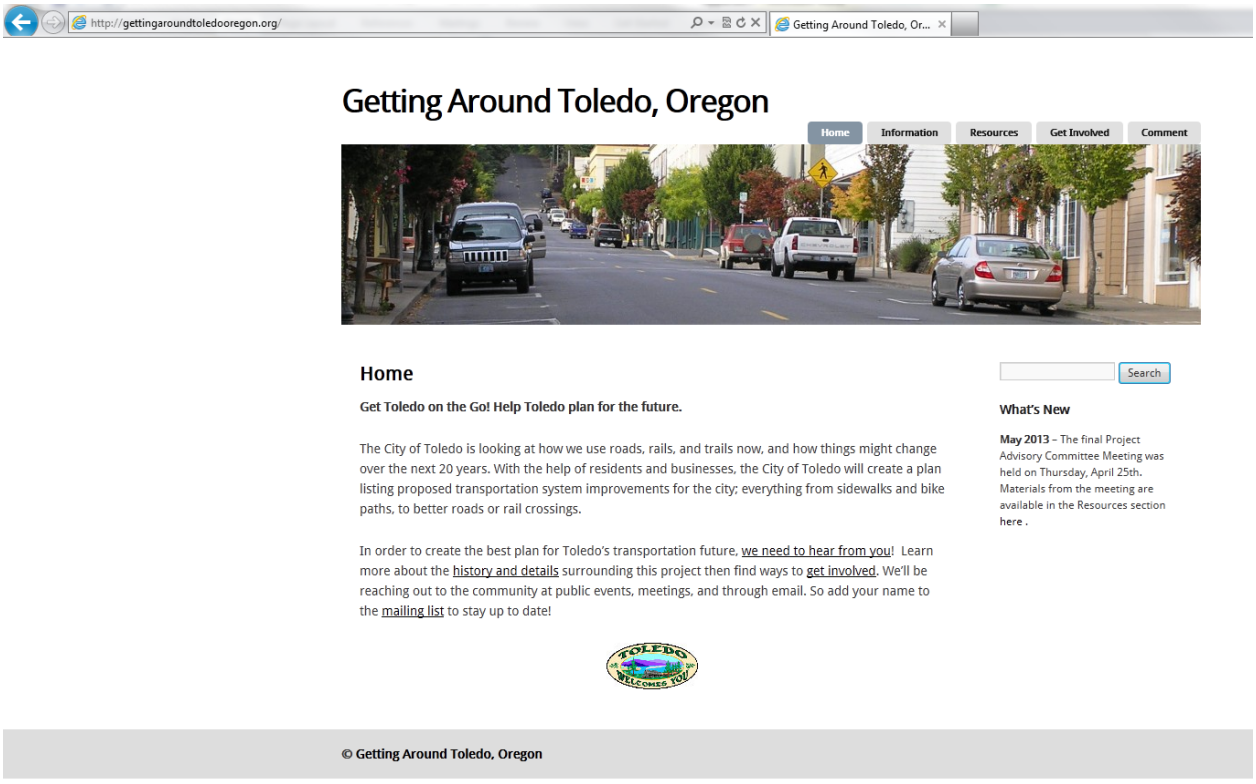
Thank you for providing me the opportunity to comment on the issue. Please continue to provide the public opportunity to offer input as the process continues.

Sincerely,



Project Website

The project website, www.gettingaroundtoledooregon.org provided information throughout the TSP process. The webpage provided background information on the project, the project schedule, all technical materials, and agendas, display information, and summaries of all PAC meetings and public Open Houses. In addition to the information on the website, users could also provide feedback on the materials and information, request follow-up from a project team member, and comment on technical information. The website was updated monthly with a What's New section, and the PAC and Open Houses were both advertised on the website. The project team tracked the weekly web hits to the site, which averaged around 10 unique hits per week.



Planning Commission and City Council Hearings and Worksessions

Both Planning Commission and City Council were involved in decision-making for the Toledo TSP. All meetings were open to the public and took public comment during the meetings. Official meeting minutes of those meetings are included below; however, meetings where the minutes are not yet finalized are not included.

The following meetings were held to discuss the Toledo TSP:

- Joint City Council and Planning Commission Worksession. May 14, 2013
- Planning Commission Worksession and Hearing. August 14, 2013
- Planning Commission Hearing. September 11, 2013
- City Council Worksession. October 8, 2013

City Hall
Council Chambers

TOLEDO CITY COUNCIL MINUTES
JOINT COUNCIL/PLANNING
WORK SESSION

May 14, 2013

Mayor Ralph Grutzmacher called the Toledo City Council/Planning Commission joint work session to order at 6:15pm. Councilors present: Jill Lyon, Jackie Kauffman, Jack Dunaway, Michele Johnson and Council President Terri Strom. Councilor excused: Alma Baxter. Planning Commissioners (PC) Present: Jerry Seth, Anne Learned-Ellis, Paul Johnson, and Linda Brodeur, and Doug Alldridge who arrived at 6:56pm.

Staff present: City Manager (CM) Michelle Amberg, City Attorney (CA) Wes Chadwick, Public Works Director (PWD) Adam Denlinger, City Recorder (CR) Nancy Bryant, Contract Planner (PC) Aneta Synan and Planning Secretary Arlene Inukai.

Visitors present: Dave Morgan, Sarah Plourde, Wayne Plourde, David Helton, and Tara Lingley.

Visitors/Public Comment

Wayne Plourde of Sola Luna Gallery, located on Main Street, stated that he has been in Toledo for a year and a half and he loves the community. He asked that the city appointed and elected officials consider how they can participate in something for the community that will reignite the vital spark that is Toledo.

Discussion and Information Items

Toledo Transportation System Plan

PWD Denlinger reported that staff and a Project Advisory Committee (PAC) have been working with CH2M Hill and Oregon Department of Transportation (ODOT) to complete the Toledo Transportation System Plan (TSP). The City received an ODOT Transportation Growth Management Fund grant to develop this plan. In the process of developing this plan, the group has considered ideas for improving traffic operation routes that include trucks, auto, transit, pedestrians, and bicyclist as well as down town parking and evaluation of the safety of the West Junction of Hwy 229 and Hwy 20. The key objective is to develop a transportation system plan with sufficient detail to serve the needs of the community, promote economic development, and meet the requirements of the transportation planning rule for the future of Toledo's transportation system.

Tara Lingley of CH2M Hill stated that, based on the PAC meetings and community input, suggestions for the plan are as follows:

Road Projects

- Freight- Add more signs (including no truck signs and support access to heavy industrial sites.
- Business Loop 20 at A Street- Add right turn lane on Business Loop 20 at A Street.
- East Slope Road Realignment- Reduce slope to allow freight trucks to use East Slope Road.
- Burgess 20 Road Realignment- Create a 90 degree angle as it connects to Business Loop 20.
- Sturdevant Road Realignment- Allow large trucks to Siletz Kiln Site by adding width to the roadway.

- "A" Street Railroad crossing- Continue with the projects in the Waterfront Connectivity Plan.
- Butler Bridge Road and 1st Street Changes- Continue with the projects in the Waterfront Connectivity Plan.

Western Junction Alternatives Analysis

- There were seven options created for the West Junction at Hwy 229 and Hwy 20. Those options were reviewed by the PAC as well as community members during an open house event. The options were then narrowed down to two alternatives including modifying one traffic signal or two interconnected traffic signals.

Bicycle/Pedestrian Projects and Policies

- Fill Sidewalk Gaps- The plan suggests completing sidewalk gaps at Burgess Road, Business Loop 20 (East Slope Road to Sturdevant Road), Douglas Street/SE 3rd St., East Slope Road, A St. Business Loop 20 to NW 1st St., and Bay Boulevard.
- Crosswalks could include signage, markings and flashing lights in some areas.
- Bicycle Boulevards in neighborhood streets that prioritize bicyclist and pedestrians.
- Trail network for both bicycles and pedestrians.
- Way-finding signs to encourage visitors to explore downtown on foot or bike.
- Create and implement a bicycle, pedestrian and driver safety education program.
- Address rough railroad crossings for bicyclists and pedestrians.
- Work with partners to develop an intercity multi-use trail.
- Explore a volksmarch route within Toledo.

Transit Policies

- Lincoln County Transit manages transit services, There are no recommended projects.
- Policies- Support new investments in transit service, explore citywide transit shuttle, and explore a water taxi or ferry service to Newport.

Freight Rail

- Maintain freight rail connection to Toledo from I-5 corridor, coordinate meetings with ODOT Rail, Lincoln County, Georgia Pacific, and Pacific North West Railroad to address crossing conditions, develop evaluation criteria and generate prioritized crossing improvement list, explore an intermodal hub with the Port of Toledo, and reduce idling train engines near Downtown businesses. Councilor Lyon suggested adding "encourage rail traffic" to the list.

Airport/Pipeline

- Indentify alternate Life Flight landing locations in the City if the Airport closes.
- Support GP's effluent pipeline to maintain applicable environmental permitting.

Water/Port Projects and Policies

- The Port of Toledo's Build-out Plan includes facilities improvements
- Assess Butler Bridge to explore accommodating taller barges and boats, explore pier for barge access at Depot Slough (GP property), explore recreational boat launch near downtown, identify dredge spoils site, and support intermodal hub for all industrial traffic.

Plan and Code Amendments

- Comprehensive Plan Amendments- Adopt the TSP as the transportation elements and include TSP policies in the transportation chapter.

- Municipal Code Amendments- Comply with the Transportation Planning Rule and ensure transportation facilities are allowed uses in each zone and add transportation standards to the code.

David Helton of ODOT Transportation and Growth Management Program explained to the group that the proposed TSP is a large plan with a lot of costs. He noted that if adopted, this plan does not create an obligation to complete the projects or for funding the projects rather it prepares the City for projects that could be completed when grant funding becomes available. He said it will be important for the City to make investments when feasible because it will make a difference in how funding agencies look at the City when it applies for funding. He recommended seeking funding before all of the details in the plan's projects are complete. He also noted that the Hwy 20 Junction is an ODOT facility and any projects will require additional review by ODOT. Also, ODOT does not endorse the options in the TSP. The West Hwy 20 Junction should be a regional priority because everyone traveling through US Hwy 20 drives through the hazardous area.

The group discussed potential sources of funding for projects included in the plan.

Public Lands Zone Update

City Planner (CP) Anetaa Synan provided a brief history of her background before becoming the City's new contract planner. CA Chadwick noted that recently the City Council struggled with how to deal with a non-public-entity owning property that is zoned public lands. Since that time there have been discussions regarding the best alternative to amend the municipal code. The current purpose of the P-L zone is to indicate lands owned by public agencies, recognizing that such lands may be put to varied uses. He noted that the discussion at this meeting should provide the Planning Commission a direction in which to review and recommend revisions to the public lands zone.

Councilor Lyon stated that her concern is not the definition or the P-L zone but that there is no provision for mixed uses. She would like to see the code accommodate flexible uses for a variety of things like office use/light industrial use/commercial use within a building. The current zone comes with a list of things a person can and cannot do and that is confusing. There should be a good parameter so that people know what they can do if they purchase a property. She said the code should accommodate creative uses of City's spaces.

Mayor Grutzmacher suggested eliminating the public lands zone but include public uses (utility use); the underlined zone should be whatever is practicable. He stated if you are going to purchase property in Toledo you should know what you can do with it before you buy it. Basing a zone on who owns the dirt is bad policy. CA Chadwick said if this is the approach it will take a public hearing and notification of surrounding property owners for each property in PL zones.

PC Brodeur noted that the Planning Commission has discussed looking at zoning to address how property is used rather than who owns the property. She asked CP Synan if it is possible to have multiple uses. CP Synan said she has suggested to the Planning Commission that moving away from zoning by ownership to zoning by use may be an alternative.

The group discussed ways to revise the code to address the property that is currently zoned public use.

PC Seth noted that all codes in place should apply to City owned property as well. Councilor Lyon noted that there may be a purpose for a public land zone as well as a need to classify things like parks and city hall or creating a different zone for those types of uses.

PC Johnson asked if this issue would be better handled case by case when properties in public land zones change ownership. Mayor Grutzmacher stated that his preference is to eliminate the public lands zone and substitute it with a couple of public uses. Councilor Dunaway stated that he likes the idea of flexibility of use rather than zoning by who owns the property.

CP Synan noted that a benefit of having a public zone or an overlay zone on a map is that it identifies potential uses and impacts to a future neighboring property owner.

CA Chadwick noted that the first step will be to pass legislation doing away with the zone and then send it to the Planning Commission for a recommendation. PC Learned-Ellis stated that she would like to see it done in a logical step by step process to eliminate properties that would be in limbo before the alternative zoning is created.

By general consensus the group agreed to do away with ownership creating the public lands zone and create language that reflects uses instead. It was also agreed that the change could include removal of the public lands zone or create an overlay. The Planning Commission will provide Council with a recommendation and timeline for completing the project.

Additional City Council/Planning Commission Discussion Items:

Councilor Dunaway asked if the Planning commission is aware of City Council's land sales plan. PC Learned-Ellis noted that the Commission would benefit from receiving the city-owned property inventory.

PC Alldridge asked who sets the speed limits on Butler Bridge Road. Councilor Lyon noted that the speed limit on that roadway is set per a railroad crossing requirement.

PC Brodeur suggested two to three joint work sessions for this group per year to review each group's goals and objectives.

The group discussed ways that the Planning Commission and City Council members can be involved within the community to bring citizens into the City and to connect with the communities young people.

City Manager Comments

CM Amberg reported the following:

- There will be a reception for Adam Denlinger tomorrow at 6pm before the City Council meeting at 6:30pm.

Adjournment:

Mayor Grutzmacher adjourned the meeting at 9:17 pm.

ATTEST:

City Recorder

APPROVE:

Mayor

Toledo City Hall
Conference Room
August 14, 2013

TOLEDO PLANNING COMMISSION WORKSESSION MINUTES

A worksession for the Toledo Planning Commission was called to order at 6:15 pm by Vice President Jerry Seth. Commissioners present: Anne Learned-Ellis, Mary Young, Doug Alldridge (arrived at 6:20 pm), and Paul Johnson (arrived at 6:35 pm). Excused was Paul Schneidecker.

Staff present: City Planner (CP) Aneta Synan and Secretary Arlene Inukai.

VISITORS: None.

WORKSESSION: Transportation System Plan (TSP):
CP Synan stated that not all of the proposed changes were completed, as the consultants were looking for additional Commissioner/Council input. Vice President Seth provided a brief overview of the process leading up to the latest draft. He noted the impacts of adopting the document and of the sub-committee's feedback/response to date. One item of contention has been the classification of Bus. Hwy 20 from an arterial to a collector street. When property is developed, there are major differences with the required improvements, potentially hindering all new development along the route.

Commissioners discussed the timeline of the consultant's contract and State's funding for the project. If adoption cannot be reached by the end of the contract deadline, the City can finalized the document and bring it back for hearings. Vice President Seth reported that the City Manager is in support of taking as much time as needed to bring in a good plan. Commissioners requested the ability to see the final draft version before recommending anything to City Council. Commissioner Learned-Ellis felt the document was a bit generic and does not adapt to Toledo very well. She pointed out that Arcadia Drive is listed as a collector, with moderate speeds. However, one cannot safely travel on Arcadia Drive at 35-45 mph.

Commissioners discussed the street classifications and why not just list street for what they really are, rather than change the definitions to fit another classification. Commissioners will want to verify with ODOT, but it looks like federal funding options are available for both arterial and collector classifications. Commissioner Learned-Ellis confirmed that the TSP needs to be written in order to get projects funded, but it also needs to be usable and reflect Toledo's need.

Vice President Seth noted that it is good to see the City Council's goal statement for the year. He noted that the document is set up with goals, objectives, and action statements. The TSP only has goals and objectives, but many objectives are actually written as action statements or projects. He would like to re-write several of the goals/objectives in order to be meaningful and could even combine/shorten some of the statements. He even prepared a list of goals/objectives he would like to see in a TSP and the list was submitted. However, they were inserted right into the document without even finding a good fit with existing statements or combining statements. It turned into 76 objectives. Also, CP Synan noted that some modes have objective statements, but no goal statements. ODOT suggested some overall goal statements to cover all transportation modes, then breaking down into separate modes to have specific statements. Commissioners also noted that some reformatting could be done to reduce redundancy within the plan.

Commissioners discussed definitions for street classifications and the speed limit ranges when identified as “low, moderate, and high” speed zones. Commissioners also discussed Bus. Hwy 20 classification of arterial and establishing a business district overlay. Some thought the addition of an overlay zone would be difficult, as there are a lot of overlay issues now.

Commissioners asked for an extra week to review the plan before the hearing and that another worksession may beneficial. The contract will expire in October, but the City can still work on the project to reach adoption. Commissioners noted they are focused on the proposed code amendments and goal/objective statements. The specific projects came out of the project committee meetings and, ultimately, the City Council will decide which projects will stay in the plan.

Commissioner Johnson entered the worksession at 6:35 pm.

Commissioners complemented the consultants with their thorough presentations and the amount of work going into the plan. The plan establishes the guidelines for the transportation system and will be a useful tool in financing the projects.

Commissioners voiced their desire to view a revised draft around August 27th. Commissioners then agreed to a worksession at 6:00 pm on Monday, September 9, 2013, if the hearing is continued until September 11, 2013.

The worksession was adjourned at 6:50 pm.

Toledo City Hall
Council Chambers
August 14, 2013

TOLEDO PLANNING COMMISSION MINUTES

A regular meeting of the Toledo Planning Commission was called to order at 7:04 pm by Vice President Jerry Seth. Commissioners present: Anne Learned-Ellis, Mary Young, Doug Alldridge (left at 7:20 pm), and Paul Johnson (left at 7:30 pm). Excused was Paul Schneidecker.

Staff present: City Manager (CM) Michelle Amberg, City Planner (CP) Aneta Synan and Secretary Arlene Inukai.

ELECTION OF OFFICERS:
It was moved and seconded (Learned-Ellis/Young) to nominate Jerry Seth as Planning Commission President. The **motion passed** unanimously, noting the absence of Schneidecker.

It was moved and seconded (Johnson/Alldridge) to nominate Anne Learned-Ellis as Planning Commission Vice President. The **motion passed** unanimously, noting the absence of Schneidecker.

VISITORS: Terra Lingley and David Helton.

APPROVAL OF THE JULY 10, 2013, MINUTES:
It was moved and seconded (Learned-Ellis/Young) to approve the July 10, 2013, minutes as circulated and reviewed by the Planning Commission. The **motion passed** unanimously, noting the absence of Schneidecker.

PUBLIC HEARING: MINOR PARTITION TO CREATE TWO PARCELS FOR PROPERTY LOCATED AT 1439 NW SPRUCE STREET, REQUESTED BY BRUCE PARSONS:
President Seth opened the public hearing by stating the nature and purpose. After calling for declarations of ex parte contact, bias, or conflict of interest, Commissioner Learned-Ellis excused herself from participating in the public hearing, as she is a direct neighbor and feels she may have a bias. The statements of rights and relevances and rights to appeal were then read.

Staff Report: CP Synan reviewed the staff report as on file at City Hall. The request is to create two parcels in the General Residential (RG) Zone. The property contains an existing home and some moderate to steep slopes. The applicant provided information showing the approximate location of the existing home and the newly proposed flag lot located behind the existing house. However, upon a site visitation last week, the applicant has already performed driveway improvements for the rear lot and staff became concerned that 1) the driveway is not located in the 'flag pole' portion of the new lot, 2) the existing house may not meet setback requirement, and 3) the flat area for the house on the new lot may not meet setback standards. Because of these concerns, staff is requesting the public hearing be continued in order to have a surveyor prepare a preliminary plat showing the existing structure, contour lines, and the new driveway. CP Synan suggested the Planning Commission hear any testimony tonight before continuing the meeting.

CP Synan reported that the applicant notified staff that a surveyor will be at the site next week and information could come as early as then. A survey could even indicate a need for a variance. An updated report will be prepared once additional information is submitted.

Commissioner Johnson stated that a survey will be very helpful, especially to show the details for the existing house and driveway. The applicant's submittal is very vague. Commissioner Young added that the terrain is pretty steep and the survey will provide clarification. In response to Commissioner questions, CP Synan reported the driveway work is in progress, gravel is down, and a building pad is being established at the top. An excavation permit will be required for the project.

It was moved and seconded (Young/Alldridge) to continue the public hearing until September 11, 2013, to allow the applicant time to submit a preliminary plat that meets the requirements of TMC 16.08.030(B) on or before September 3, 2013. The **motion passed** unanimously, noting the absence of Schneidecker.

PUBLIC HEARING: COMPREHENSIVE LAND USE PLAN AMENDMENT THE TOLEDO TRANSPORTATION SYSTEM PLAN (CITY FILE #PA-1-13):
President Seth opened the public hearing by stating the nature and purpose. There were no declarations of ex parte contact, bias, or conflict of interest. The statements of rights and relevances and rights to appeal were previously read.

President Seth voice appreciation with the City Manager, City Planner, and Planning Assistant's time on this project. A lot of staff time has been dedicated to the draft plan. He also acknowledged the time and comments from Commissioner Learned-Ellis, as they met a few times to review the plan. Commissioner Learned-Ellis echoed back President Seth's comprehensive review and feedback of the document.

Staff Report/Applicant Testimony: CP Synan reviewed the staff report as on file at City Hall. She stated the request is to amend the Comprehensive Land Use Plan (Comp Plan) to adopt the Toledo Transportation System Plan (TSP). Part of the TSP identifies new goals and objectives to be incorporated into the existing Comp Plan chapters, and then the TSP document can be adopted by title and reference.

The Planning Commission held a worksession last week and looked at the draft document. Several suggestions were identified. Because of this, a draft ordinance was not created, as there could be changes to the text. CP Synan is recommending a continuation of the public hearing, but suggested the Commission hear the consultant's presentation and allowing public testimony tonight.

At this time Commissioner Alldridge excused himself from the meeting.

Consultant Terra Lingley of CH2M Hill introduced herself and David Helton from ODOT. Ms. Lingley explained she prepared a power point presentation, but there are some technical problems with the projector. She noted that a copy of the presentation is included in the Commission's packet.

Ms. Lingley reported she has enjoyed Toledo and hopefully, the plan reflects the City. She provided the following information and background going into the draft TSP:

- The TSP provides guidance for a 20-year planning period. The plan should be revisited and updated every 5-8 years to stay current.
- The TSP identifies each transportation mode, goals, objectives, proposed code changes, street classifications, projects, and funding options. Projects are separated into short- and long-term categories. This does not mean a long-term project cannot be done before a

short-term project, but it reflects the time and costs involved to complete the project.

- Four project advisory committee meetings were held over the last year.
- One project was removed from the last draft, which was the East Slope Road realignment for freight trucks.
- There are two options identified in the TSP for the west Highway 20 junction. Both are viable options, but improvements could depend on funding. It was clarified that the City needs to stress to ODOT that this intersection is a regional problem, not just a City issue. Also, Lincoln County should be included in the west junction project as a champion (partner).
- Specific projects identified within the TSP were reviewed.
- There are a lot of bicycle and pedestrian projects, nearly two times as many as road projects. This is because of the system needs for the two modes--there are a lot of missing sidewalks and no bike lanes. The plan does not mandate that the City build all of the projects, but would want to see developers address the bike/pedestrian facilities.
- There are a lot of long-term projects and aspirational projects and many have a regional importance.
- The maintenance costs for a boardwalk would be quite higher than for a concrete or asphalt surface. An option could be to partner with volunteer or civic groups for construction and maintenance.
- Three of the port projects were pulled directly from the Port of Toledo's plans. They would be funded from different sources and the City would not have to compete directly to with their projects. The Port has been a great participant in the TSP process.

Commissioner Johnson excused himself from the meeting at this time.

Commissioners reviewed the goal statements and that they should be broad vision statements. The objective statements are ways to meet the goals and sets provisions to guide the City.

The following revisions/edits were identified for the plan, as discussed in previous Commission worksessions:

- The objectives could be condensed down, while still meeting the intent, for example, Page 2-3, Numbers 25, 27, and 30 can be reduced down to one single objective.
- The bicycle and pedestrian goals could also be combined. Page 2-4, Nos. 37 and 38 can be combined. Also, objectives No. 32 and 33 (new and major improvements) combined and Nos. 35 and 36 (pedestrian facility standards) combined.
- Define "major improvements" (pulled from Appendix F), as discussed at the last worksession.
- Combine objectives 57 and 58 on Page 2-5.
- Reword the airport objective to deal with emergency services "if the airport closes".
- Within the rail objectives, the rezone language can be removed to restrict only industrial or commercial zones. Also, remove the 500' requirement to notify ODOT Rail for development proposals.

The Transportation Planning Rule (TPR) requires plan and code amendments and the City is pretty compliant with the requirements, just a few changes are necessary. The proposal will include a complete amendment to Comp Plan Article 12 (Transportation) and a revision to one goal and one objective in Article 14 (Urbanization and Livability). The proposed language is included in Appendix F. Other changes to the City codes include, 1) an amendment to TMC 16.04 to add definitions and update the general requirements, 2) establishing new Section 16.14, dealing with

transportation facility standards (this is a State requirement), 3) update TMC 16.16 for transportation items and consistency, and 4) updates to the zoning ordinance for transportation facilities, bicycle parking, and access requirements for various street classifications. All proposed language is included in Appendix E and F. The TPR requires street standards for new and redevelopment projects. Commissioners discussed the high volume streets and establishing the classifications. It was noted that the plan is consistent with the City's existing Public Works design standards manual. The proposal allows a preferred and minimum standard when developing local roads. The State requires bike/pedestrian facilities on arterials, although a shoulder could be appropriate. Illustrations of the standards are included in the plan.

The Commission discussed the functional classification system for streets. Proposed changes include changing A Street/Butler Bridge Road from a local street to a collector street. East Slope Road, Lincoln Way, and Arcadia Drive as a collector street. Downgrade Main Street to a local street. Planning Commissioners discussed Bus. Hwy 20's classification as an arterial and most felt this is not appropriate for Toledo. They have options for the classifications, and the road could be downgraded to a collector street.

Ms. Lingley noted that Bus. Hwy 20 is unique, considering how it is used for the local and regional network. The State has guidelines for street standard classifications. The first proposal came from this review, but it was determined that the standards were pretty extreme. The second proposal used the City's existing street standard manual. Mr. Helton added that the functional classification is identified as a best fit, but there are no mandates. Some communities have created their own classifications. When making a funding determination and a classification does not match the norm, ODOT will define the road for that purpose and will look at their existing guideline.

Commissioners discussed the option of establishing street classification definitions and noted that function and speed are not always compatible when looking at Bus. Hwy 20. Commissioner Learned-Ellis pointed out that no speed range was identified in the plan, only "high", "moderate", or "low". This could be subjective, so she asked how much is the speed range factored into the classification? Mr. Helton stated that it does not factor in and the speed range language can be deleted from the definition. Oregon speed limits are set by statute and are very regulated, so it may be better to remove the language from the definition. Mr. Helton further explained that the definitions describe the functional classification of the street, but it does not mandate the operation of the street. For example, arterials usually have a higher speed, but it does not have to. Mr. Helton offered to follow-up with speed limit statutes and how they may impact street classifications, making sure that the TSP does not get out-of-sync with current regulations. Commissioners also asked for a specific number range for speed limits (for example, are low speeds identified as 25-35 mph). Ms. Lingley added that arterials often have higher speeds in a rural highway setting, then reduced down once inside city limits and business districts. She noted that this is similar, noting that there is a reduced speed in town and the topography of Bus. Hwy 20 affects traffic speeds. Commissioners voiced their desire to achieve funding and not jeopardizing any project because of the road classification. Commissioners agreed to delete the reference to speed range from the definition table.

Ms. Lingley reported she reviewed the notes from the Commission's August 7th worksession and she received direction from Commissioners to make the recommended changes to the plan.

President Seth suggested classifying Bus. Hwy 20 as a collector, rather than an arterial, which would allow more businesses to develop. He added that the west junction area is not an arterial by

definition. The east end has more residential development and often, it is hard to access the driveways because of traffic speeds. The speed limit should not increase in that area. Ms. Lingley agreed that driveway access should be safe. She added that the City should make the determination to best suit the City's needs and the plan should be reviewed every 5 years. President Seth appreciates the information and does not want to make the process more difficult, but wants to make sure the City has a good plan. He then pointed out that some objectives are written as action statements. He suggested the plan include goals, objectives, then action items.

CP Synan reported the use of access management standards based street classifications, which would impact new development. Ms. Lingley reported that the initial set of standards were pulled from the DLCD model code, which is where the original 1200' distance between driveways was established for arterials. She agreed that this was too much and the standards should better represent Toledo.

Ms. Lingley noted that Bus. Hwy 20 is currently classified as an arterial. There is a reference that addresses the current classification on Page 3-1, which will remain.

Commissioners asked for CM Amberg's comments on the draft plan, however, she felt it is inappropriate to comment at this time and will provide input at a later date. CP Synan noted that she received two comments on the draft, submitted via email, and they will be included in the next packet.

Because there is no quorum, the hearing will be continued to September 11, 2013. At the next meeting, David Helton will attend. Unfortunately, Ms. Lingley's attendance at a second Planning Commission meeting is not included in the contract. Mr. Helton noted that if the plan does not go to City Council by the end of September, the contract can be extended.

Commissioners voiced great appreciation of the amount of work that has gone into the plan. They thanked Mr. Helton and Ms. Lingley for their work and appearance tonight. Commissioner Young then acknowledged and thanked President Seth and Commissioner Learned-Ellis for their thorough review of the draft.

There being no further business before the Commission, the meeting was adjourned at 8:25 pm.

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Secretary President

Toledo City Hall
Council Chambers
September 11, 2013

TOLEDO PLANNING COMMISSION MINUTES

A regular meeting of the Toledo Planning Commission was called to order at 7:00 pm by President Jerry Seth. Commissioners present: Anne Learned-Ellis, Mary Young, Paul Johnson, and Paul Schneidecker. Excused was Doug Alldridge.

Staff present: City Planner (CP) Aneta Synan, City Manager (CM) Michelle Amberg, Public Works Director (PWD) Frank Anderson, and Secretary Arlene Inukai.

VISITORS: David Helton (Oregon Department of Transportation)

APPROVAL OF THE AUGUST 7, 2013, AND AUGUST 14, 2013, MINUTES:
It was moved and seconded (Learned-Ellis/Johnson) to approve the August 7, 2013, and August 14, 2013, minutes as circulated and reviewed by the Planning Commission. The **motion passed** unanimously, noting the absence of Alldridge.

CONTINUED PUBLIC HEARING: MINOR PARTITION TO CREATE TWO PARCELS FOR PROPERTY LOCATED AT 1439 NW SPRUCE STREET, REQUESTED BY BRUCE PARSONS:
President Seth opened the public hearing by stating the nature and purpose. Declarations of ex parte contact, bias, or conflict of interest, were made at the last meeting, in which Commissioner Learned-Ellis excused herself from participating in the public hearing. The statements of rights and relevances and rights to appeal were previously read.

Staff Report: CP Synan reviewed the staff report as on file at City Hall. She provided a recap of last month's meeting and the concerns with the accuracy of the applicant's submittal. In August, the Planning Commission continued the public hearing to allow the applicant time to have a surveyor submit a preliminary plat. The survey was submitted on September 10th, but the staff memo was written for the agenda packet on September 4, 2013, before the survey was completed.

CP Synan reviewed two options for tonight's hearing—take action based on the information presented or continue the public hearing. She reported that the preliminary plat may indicate other issues on the property. The survey shows a shed, but this would be nonconforming if the new parcel is created because it does not have a primary structure. The survey also identified the shed 3' from the side property, but the minimum setback is 5'. The shed is only a foundation at this time, and a building permit has not been submitted for the work. The proposed lot configuration for the new lot may not meet the code requirements for the 'flag pole' portion of the lot. The code requires a 20' wide area, but the applicant identifies only a 15' wide area for the driveway. If an additional 5' area is dedicated for the driveway, then the existing house would not meet setback requirements.

CP Synan recommended continuing the public hearing to allow time to meet with the applicant and try to resolve the issue with the shed foundation, building permit, and setbacks.

It was moved and seconded (Young/Johnson) to continue the public hearing for lack of information. The next meeting will be October 9, 2013. The **motion passed** with Learned-Ellis abstaining and

noting the absence of Alldridge.

CONTINUED PUBLIC HEARING: COMPREHENSIVE LAND USE PLAN AMENDMENT FOR THE TOLEDO TRANSPORTATION SYSTEM PLAN (CITY FILE #PA-1-13):
President Seth opened the public hearing by stating the nature and purpose. There were no declarations of ex parte contact, bias, or conflict of interest. The statements of rights and relevances and rights to appeal were previously read.

Staff Report/Applicant Testimony: CP Synan reviewed the staff report as on file at City Hall. At August meetings, the Planning Commission recommended changes to the Transportation System Plan (TSP) document. David Helton from ODOT Transportation Growth Management program provided those edits and his version is included in the Commission's packet in a 'track-change' format. Commissioners Learned-Ellis and Seth reviewed the edits against the list of recommended changes and reported that they matched. Because of the edits, Appendix E and F were updated to reflect the changes and included in the Commission packet.

CP Synan stated there has been some concern expressed with the proposed language for the zoning and the land division ordinances, but those items are not part of tonight's request. The specific code changes will be forthcoming after a TSP is adopted. Tonight's hearing is only to consider the TSP adoption and the Comprehensive Land Use Plan (Comp Plan) text amendments. Commissioner Johnson asked about the timeframe to review the code amendments. CP Synan reported they should move forward with the review very soon after TSP adoption. There will be a brief time where the codes are out of compliance with the Comp Plan, but there is no set time for implementation. She clarified that some regulations are established in the TSP, such as the street improvement standards, which will apply to development upon TSP adoption.

CP Synan clarified that the Commission would make a recommendation to the City Council. The draft ordinance amends the Toledo Municipal Code (TMC) because the Comp Plan was adopted by ordinance and identified in TMC 1.08. If the ordinance is adopted, the revised text language (Exhibit A) will be inserted into the Comp Plan. President Seth reiterated that the decision to adopt the TSP only includes the plan document and it does not accept the recommended development code changes (identified in the appendices). He added that when they reviewed the draft line-by-line, all of the recommended updates were included and the only concern he saw had to do with the variance language in the appendix. This item can be dealt with during the code update process. President Seth voiced appreciation for Mr. Helton making the changes. Commissioner Learned-Ellis added that all of the changes were made and the reasoning for other changes made sense. However, she pointed out Appendix E, Page 4, shows "Arcadia Road" as a collector, but this should be "Arcadia Drive". This is also listed on Page 4-2, under Collector Classification. She questioned if Table 4-7 was struck in its entirety (Page 4-11) because it seemed redundant.

David Helton from ODOT Transportation Growth Management program reported his agency provided the grant to develop the City's TSP. After last month's meeting, he had a few issues to report back. The functional street classifications for Toledo will be determined by the City. ODOT has a process to update their list of functional classification for funding eligibility and ODOTs list will be consistent with the local list. Generally, arterials and collectors are eligible for federal funds, while local streets are not. The second item from last month was the statutory speed laws. These provide default speed limits and the street classifications are not a factor in the speed laws. In order to change a speed zone from the default standard, cities must request a speed study. A study would look at traffic patterns, road conditions, the type of road, and surrounding land uses.

Mr. Helton referenced ORS 811.111 for speed limit standards. The default is in effect if a speed is not posted. The only time a functional classification would make a difference for a speed limit is on a State highway. He reviewed the list of existing speed zone orders for the Toledo area, including Butler Bridge Road, Yaquina Bay Road, Hwy 20, A Street, Arcadia Drive, Sunset Drive, East Slope Road, and Sturdevant Road, and Toledo Frontage Road (Bus. Hwy 20).

Mr. Helton reported the goals and policies were established through committee meetings. At this time, direction needs to come from the Planning Commission. There have been several edits and revisions to reduce redundancies within the document. Typically, every transportation plan has very broad goal statements, which Toledo currently has. These broad statements establish the minimum standards and provide justification for many actions. Specific goals provide the guidance for certain issues. For example, the US Hwy 20 western junction is a very important issue and has a specific goal to continue to work with ODOT to reach a solution. If the Planning Commission feels there are redundancies within the goals and objective statements, the simplest thing would be to delete them and rely on the broad goal statement at the beginning of the list.

Mr. Helton stated the appendices are not being adopted with the plan. They are the background documents. A lot of analysis goes into the plan, but the technical data goes into the appendices and shows the reasoning behind the plan. He clarified that not all of the appendices have to be included and can be removed all together. Appendix A, C, D, and E are critical to the document, but the others are less critical and can be pulled out. Most of Appendix F is already included in TSP Chapter 2. Mr. Helton added that it is very important to have a TSP and he knows that this can be onerous. The City's plan should be a good fit for the community. He stated that he reviewed minutes of the August worksession and understands the Commission's concern with the timeframe. A request for an extension with the ODOT contract has been requested, set to expire December 31, 2013. This allows time for the consultant to attend one City Council meeting.

Commissioners considered removing Appendix F because it is redundant to what is in the TSP. However, Appendix F provides the findings for reaching compliance with the Transportation Planning Rule and this is important for the document. After discussion, Commissioners felt that it is good to have the back-up information in the plan. Also, language throughout the plan reference several appendices.

CP Synan offered that when the code language changes are reviewed later, there is some flexibility for the amendments, but some items are required in order to meet State standards. She can provide a list of ordinance amendments that have flexibility options and the amendments which are mandated. She pointed out that coordination with Lincoln County is necessary for development standards on County roads (Sturdevant Road, Yaquina Bay Road, and portions of Bus. Hwy 20).

Commissioner Learned-Ellis referenced one of the public comments submitted in the staff report, specifically, the need to provide covered bus shelters. This comment should go into the record that the structure be provided as funding is available. This should be included in 5310, Page 4-13. She added that with all of the revisions, the document has been reduced down and it is easier to read. Commissioner Johnson stated they can review items in the future, as long as there are good statements that allow "housekeeping" revisions. President Seth noted that they could continue to adjust, change, and edit forever, but for the interest of other topics, it is good to move forward.

Proponent Testimony: None.

Opponent Testimony: None.

Other Interested Parties: None.

Questions by Commissioners: None.

Deliberations: The public hearing was closed and the Commission entered into deliberations. It was moved and seconded (Young/Learned-Ellis) to recommend the City Council adopt proposed Ordinance No.1352, an ordinance amending the 2000 Toledo Comprehensive Land Use Plan, as adopted by Ordinance 1285. The **motion passed** unanimously, noting the absence of Alldridge.

Commissioners thanked both Mr. Helton for his assistance and staff for the work with the TSP.

DISCUSSION ITEMS:
President Seth reported that one of the City Council's goals is to annex properties surrounded by the current City limit line. About seven properties have been identified for potential annexation. CM Amberg reported that many sites already receive City services, but are not paying City property tax. In some cases, only City water is available and a sewer line extension would be very expensive to provide. Commissioner Learned-Ellis noted that the City has approved some septic systems upon annexation because the sewer main lines are not in the area. Commissioner Schneidecker confirmed that he was one of those developments.

STAFF COMMENTS:
None.

COMMISSIONER COMMENTS:
President Seth voiced appreciation with getting through the TSP process, which at times, has been very agonizing. He recognized full cooperation and assistance from CM Amberg, CP Synan, and Secretary Inukai. All were available throughout the project. He also acknowledged Commissioner Learned-Ellis for her contribution and attention to details. He felt there was good collaboration between everyone. CP Synan noted that tonight's draft TSP was quite a bit different from the original draft, released in May. This latest draft provides a lot of detail that is specific to Toledo. President Seth also expressed appreciation for Mr. Helton's help and streamlining the plan. He noted that it will be good to move onto the development code standards and to remember that the TSP should be reviewed/updated every 4-5 years. Everyone thanked President Seth for his work and time dedicated to the TSP project.

CM Amberg introduced new Public Works Director Frank Anderson. She added that PWD Anderson is a new Toledo resident and is getting very involved in the community. All welcomed PWD Anderson to the City.

There being no further business before the Commission, the meeting was adjourned at 8:05 pm.

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Secretary President

City Hall
Council Chambers

TOLEDO CITY COUNCIL MINUTES
WORK SESSION
October 8, 2013

Mayor Ralph Grutzmacher called the Toledo City Council work session to order at 6:16pm. Councilors present: Alma Baxter, Jill Lyon, Jack Dunaway, Michele Johnson, and Jackie Kauffman. Excused: Council President Terri Strom.

Staff present: City Manager (CM) Michelle Amberg, City Attorney (CA) Wes Chadwick, Public Works Director (PWD) Frank Anderson, Planning Secretary Arlene Inukai, Contract Planner (CP) Anita Synan, Contract Code Enforcement Officer Dustin Kittel, and City Recorder (CR) Nancy Bryant.

Visitors present: Don Amberg, Dave Morgan, Jerry Seth, David Helton, and Ann Learned-Ellis.

Discussion and Information Items

Mayor Grutzmacher called for a motion to add "Property Abatement of 927 SW 6th Street, Toledo" to the Discussion and Information Items of this meeting. Moved by Councilor Dunaway and Seconded by Councilor Baxter. Motion passed 6-0, noting the absence of Council President Strom.

Committee Updates

CM Amberg noted vacancies in the following committees: Public Utility Commission, Budget committee, Contribution Committee, Planning Commission, and Parks and Recreation Advisory Committee.

Property Abatement- 927 SW 6th Street, Toledo

Dustin Kittel, Toledo's Contract Code Enforcement Officer reported a potential abatement for nuisance of real property located at 927 SW 6th. Kittel stated that for the previous year the City has been working with the property owner regarding code violations. The structure is collapsing, there are exposed electrical components, and water has been allowed to get inside the building. There is also miscellaneous debris located throughout the property. The owner has been sighted several times and has appeared before Toledo's Municipal Judge. Judge Parsons found the owner guilty of code violations and fined him several hundred dollars. The owner has indicated that he does not have the financial or physical means to do anything with this property. Kittel stated that continued fines will serve no purpose and the City may now take the issue to the next level. The owner has been notified that the City will consider abatement of the property a nuisance. Kittel estimated that the cost for a total abatement will be $15,000 unless the Fire Department is willing to use the 'Learn to Burn' program which will reduce the cost to approximately $6,000. He noted that if the city does nothing it may set a precedence that if a property violation is ignored long enough the City will discontinue to seek compliance.

In answer to Council questions Kittel stated the following:

- The next step is to seek a warrant from the Toledo Municipal Judge. Fire Department personnel can then get a closer look at the property to determine if the Learn to Burn program can be utilized.
- The owner is disabled and lives in another area. The owner has not indicated that he is willing to wash his hands of the property but may agree to the abatement.

- If the City chooses to abate the property a lien will be filed and placed on the property.

Mayor Grutzmacher stated that the City may want to suggest an exchange of ownership if the City is going to incur $15,000 in costs. Kittel agreed to discuss the issue further with the owner.

Toledo Transportation System Plan Ordinance Review

CA Chadwick reported that the City was awarded a Transportation and Growth Management (TGM) grant administered jointly by the Oregon Department of Transportation (ODOT) and Department of Land Conservation and Development. The TGM grant funded the contract services of professional consulting firm CH2M Hill to provide assistance to study and prepare a Transportation System Plan for transportation modes within the City limits and Urban Growth Boundary. Before Council is an amendment to the goals in the 2000 Toledo Comprehensive Land Use Plan. He explained that the Comprehensive Plan includes an inventory of land, goals and objectives, and a map which is the governing document in which the City uses for land use decisions. CH2M Hill has been working with Toledo's Planning Commission to develop the proposed Transportation System Plan and to amend the Comprehensive Plan to reflect the Transportation System Plan.

Anita Synan, Toledo's Contract Planner stated that the plan provides goals for the City's transportation system including streets, transit, walkways, bicycle routes, water, and rail service. It also identifies implementation objectives including ways to implement the goals that are listed as well as several projects that were prioritized for the city to implement in the next 5 to 20 years. The city is not mandated to implement any of the projects but having them in an adopted plan makes them more attractive for future grant funding. She noted that the Planning Commission voted to recommend approval of the proposed Ordinance.

David Helton of ODOT provided a summary of the proposed Transportation System Plan as follows:

- **How it will be used**- as guidance for residents, developers, and city staff on the future transportation system. The project timeframe or priorities are a suggestion, based on current information. It is also used as a way to pursue transportation funding to implement projects important to the City. The plan can be amended as the need occurs. He suggested that the City review the plan and set annual priorities during annual goal setting sessions. He also suggested adding language regarding communication with the railroad company for rail crossing improvements.
- **Goals and objectives**- will provide guidance on how the community envisions the future transportation system. The proposed TSP provides for goals and objectives in Street System, Bicycle/Pedestrian, Port/Water System, Transit, Air/Pipeline, and Rail. He encouraged the City to make any changes in the goals or objectives now, before it is approved or to delete them if not needed.
- **Plan and Code Amendments-** The recommended code amendments are not adopted when the plan is adopted. The 2000 Toledo Comprehensive Plan amendments will include the TSP as the transportation element, with the TSP policies incorporated in Article 12 and a reference to the TSP in Article 14 (Urbanization and Livability). The proposed Municipal Code amendments include the following:
    - Chapter 16.14-adds Transportation Facility Standards. These are based on the 2009 Toledo Public Works Standards
    - Chapter 16.16-add TSP reference in the planned development criteria

- Chapter 17.20-17.36 Zoning-adds transportation facilities as allowed uses and defines transportation improvements
- Chapter 17.44 Parking-adds bicycle parking requirements/standards, and bicycle parking credit
- Chapter 17.48 Access- adds driveway and public street spacing standards

- **Functional Classifications-**will create a balanced system that moves people within and through the City and provides access to land uses. He noted that the plan does not identify any of the City Streets as 'arterial' because the City expressed concern that if so designated, the City may be required to set increased speed limits and increase driveway spacing which may interfere with commercial development.

Other Comments- Mayor Grutzmacher requested a count of transit stops without shelters located in Toledo. Councilor Lyon said, outside of reading the document she sees no reason to hold back on a decision. Planning Commission President Jerry Seth stated that he sees nothing harmful in the plan and would like to see it approved. CP Synan noted that the Planning Commission spent a lot of time reviewing the initial proposal in an effort to make it relevant to Toledo. Anne Learned-Ellis thanked CP Synan for her work on the project. Councilor Dunaway stated that he liked the process used to develop this plan. Mayor Grutzmacher noted that there doesn't seem to be any controversy and staff should move forward with any text amendments. Staff agreed to bring the proposed ordinance for a formal decision by Council on November 6, 2013.

Mayor Grutzmacher called for a brief recess at 8:09pm. The meeting resumed at 8:19 pm.

City Owned Property

CM Amberg provided Council with a copy of Ordinance No. 1342 which provides for a process to dispose of City owned property. She also provided Council with a draft request for proposal (RFP) for a Real Estate Agent of Record. She suggested bringing a Real Estate Agent on board to aid Council in strategizing the disposal of real estate properties. Councilor Dunaway suggested declaring some of the unused properties surplus while the City is seeking a Real Estate Agent of Record. Council agreed that they would like to decide which properties to surplus as soon as possible. Staff agreed to place the Real Estate Agent of Record on the October 16th agenda for an official decision.

Street Utility Fee

CM Amberg provided a copy of Ordinance No. 1325, an ordinance establishing the road maintenance regulatory program and adopting fees for the road maintenance services. Councilor Dunaway stated that he has been concerned about whether heavy industry is paying its fair share in Street Utility fees and has asked for this discussion. He noted that if other Council members are satisfied with the rate schedule then he is not interested in pursuing the issue further. Council members and staff agreed that the property inventory on the fee schedule may need to be updated to reflect current businesses.

Completion of the 2012 Summer Paving Project & Pedestrian Grant

PWD Anderson reported that as part of the waterfront connectivity plan, the south end of Main Street was examined regarding the speed of traffic, lack of ADA compliance access, poor transition to 2nd Street and Butler Bridge Road, and the lack of enhanced aesthetics and visitor information. In 2011 the City received a Bicycle/Pedestrian grant from ODOT in the amount of $180,000 with a City and Port of Toledo match of $10,000 each. A part of that grant project was

to pave Butler Bridge Road and realign the South Main Intersection. He noted that the grant funding has been extended but that the enhanced aesthetics and visitor information public space portion of the project remains incomplete. He said the City and Port arrived at a conceptual design of the area which included a hardscape inside the concrete. Initially the estimated cost for completion of the public space was $50,000. After some changes in the design elements staff estimates the project can be completed at a cost of $28,000. By consensus, council directed PWD Anderson to move forward with the project.

Neighborhood Park Enhancements

Councilor Lyon reported through her involvement with economic development issues she has come up with a few ideas to boost the community and its attitude about itself. She suggested placing covered shelters in neighborhood parks for people to use as gathering sites. She also suggested that City employees of various departments visit the local schools and provide information about the City government. Council and staff discussed the possibility of financing and installing structures in City parks. Council agreed to discuss the issue again in December or January.

H.E.A.L. (Healthy Eating Active Living) City

Mayor Grutzmacher reported that he is on the advisory committee for the Healthy Eating Active Living initiative and he would like Toledo to adopt the program. By consensus Council agreed that Mayor Grutzmacher will draft a resolution to come before Council on November 6th.

Additional Council Discussion Items

Councilor Lyon reported that the Lincoln County Telecom Committee approved a draft ordinance that will be distributed to the County and local municipalities for their consideration. The ordinance will require installation of fiber optic conduit for new construction and major renovations in both commercial and residential development.

City Manager Comments

CM Amberg reported that she will be away from the office beginning October 25th through November 9th. She will be attending a FEMA Incident Command Training at the National Emergency Training Center in Emmitsburg, Maryland. CA Chadwick will be in charge during her absence.

Adjournment:

Mayor Grutzmacher adjourned the meeting at 9:19pm.

ATTEST: APPROVE:

_____ _____

City Recorder Mayor