



Falls City Street Improvement Plan

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Executive Summary

Currently there are a number of unpaved and substandard streets within the city limits. Not only do these streets serve as barriers to development and redevelopment opportunities, in many instances they also present safety hazards to motorists, pedestrians and bicyclists.

In 2008, the City of Falls City received a Rural Investment Fund grant to complete a street improvement plan. The purpose of the Falls City Street Improvement Plan is to inventory and identify needed street improvements and to identify potential funding mechanisms that may be used to prioritize and complete street improvement projects. The Street Improvement Plan also includes amendments to the City's Comprehensive Plan, Zoning Ordinance and Public Work Design Standards needed to implement the Plan.

MWVCOG completed a street inventory in 2009 to identify current street improvement widths, pavement conditions and right-of-way widths. The inventory shows the majority of streets in Falls City do not meet the City's current street construction standards for pavement width and surfacing requirements. Additionally, within the city limits there are a number of undeveloped street right-of-ways that serve as impediments to providing a well-connected and convenient street system. In certain instances these right-of-ways may be unnecessary or impractical to develop based upon topographic conditions. Most city streets do not have sidewalks, which serves as a barrier to providing safe pedestrian access from residential areas to schools, the downtown and local parks.

The City's existing transportation goals and policies give priority to street improvements that are necessary to achieve safety, lower maintenance costs and increase efficiency. One funding mechanism that can be used to fund local street improvements is the formation of Local Improvement Districts (LIDs). Under a LID, a street or other transportation improvement is built and the adjacent properties that benefit from the improvement are assessed a fee to pay for the improvement. The Street Improvement Plan includes a map of ten (10) potential LIDs within the City based upon geographic areas that rely on a common set of streets for access. Non-remonstrance agreements (an agreement by a property owner to participate in future street improvement projects) may be used to help facilitate the formation and participation in LIDs in the future.

The Street Improvement Plan also includes a Future Street Network Plan to guide the overall growth and development of new streets in the future. Streets needed to serve future development will be funded primarily by new development.

While funding sources continue to be limited for city street improvements, there are a number of federal, state and local transportation funding and financing sources that may be used to complete street improvement projects. A complete list of these resources may be found in Chapter 6.

Chapter 1: Introduction

The City of Falls City currently has a number of unpaved and substandard streets within the city limits. Many streets are not of sufficient width to allow two cars to pass and present potential safety hazards to the public and future development within the city.

In 2008, the City of Falls City received a grant award from the Rural Investment Fund (RIF) to complete a street improvement master plan. The purpose of the plan is to identify and prioritize needed street improvements within the city. The main objectives of the Plan include:

- Inventory current street conditions.
- Identify needed street improvements consistent with the goals and policies found in the Transportation Element of the City's Comprehensive Plan.
- Consider potential transportation funding and financing mechanisms such as, Local Improvement Districts (LIDs) to complete needed street improvements.
- Designate future street locations and extensions of existing streets to help guide the design of future development.
- Review street design and construction standards and updated as needed.
- Develop updates to the Falls City Comprehensive Plan, Zoning and Development Ordinance and Public Works Design Standards needed to implement the Plan.

The Plan covers six (6) main topics. Chapter 2 describes the existing city street network, including an inventory of current street conditions. Chapter 3 discusses street improvement priorities and recommends the creation of potential Local Improvement Districts (LIDs) as a mechanism to fund street improvement projects throughout the city. Chapter 4 describes future street improvements needed to provide safe and convenient transportation within the city. Chapter 5 includes a review of the City's existing street design and construction standards and recommends changes to these standards. Chapter 6 describes additional funding sources available for transportation improvement projects. Chapter 7 concludes with a list of recommended actions the City should take to implement this plan.

Chapter 2: Street Inventory

In 2009, City staff conducted an inventory of existing street conditions within Falls City. The street inventory included a summary of the following information:

- *Jurisdiction* – identifies whether or not a street is under the jurisdiction of Falls City or Polk County;
- *Classification* – identifies whether a street is classified as a local (minor), collector or arterial street;
- *Street width* – includes an estimate of the current street width;
- *Surface* – describes whether a street is currently paved or unpaved (gravel);
- *Pavement condition* – describes the current condition of paved streets (e.g. poor, fair, good and very good condition);
- *Curbs and Sidewalks* – identifies whether a street currently has curbs and sidewalk; and
- *Right of way* - includes an estimate of the current street right-of-way width.

Appendix A includes the complete street inventory.

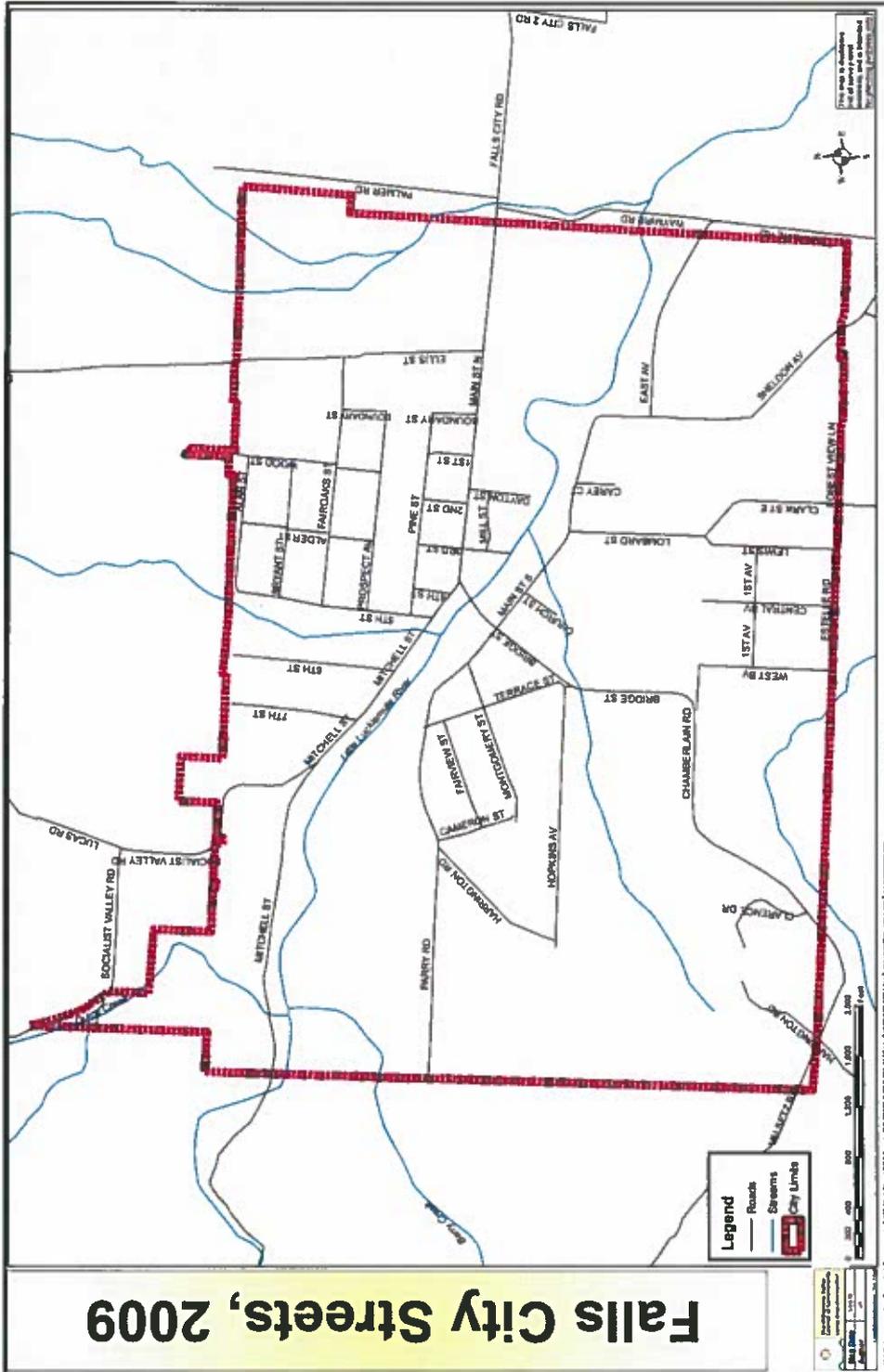
Existing Street System

The city street network is generally divided into two main sections north and south of the Little Luckiamute River. Streets in the northern part of the city are generally laid out in a grid pattern. In the southern part of the city, streets are in a more irregular pattern. Falls City Road serves as the primary access road to the city and is under the jurisdiction of Polk County to the east city limits. Once inside the city limits, Falls City Road turns into North Main Street and is under the jurisdiction of Falls City.

The remaining public roads within the city limits are maintained and under the jurisdiction of Falls City with the exception of Black Rock Road, which is located at the west end of Mitchell Street. Black Road is classified as a resource road in the Polk County Transportation System Plan (TSP). According to the Polk County TSP, resource roads provide a connection between resource areas, and principal and minor arterials. These roadways are generally rural and provide access to agricultural and timber roadways, to facilitate movement of goods and services. Resource collectors provide an important and needed function in serving areas that contribute to the economic base of the community even though they may have low volumes of traffic.

Figure 1 includes a map of the existing city street network.

Figure 1 Falls City Streets, 2009



Functional Classification

The roadway functional classification system groups city streets into categories based upon the character of service they are intended to provide. Identification of the appropriate roadway functions is the basis for planning roadway improvements and establishing appropriate standards (right-of-way, roadway width, design speed).

The three (3) general types of roadway functional classifications are described as follows:

- *Arterials* – Intra- and inter-community roadways connecting community centers with major facilities. In general, arterials serve both through traffic and local traffic. Access should be partially controlled with infrequent access to abutting properties.
- *Collectors* - Streets connecting residential neighborhoods with smaller community centers and facilities as well as access to the arterial system. Property access is generally a higher priority for collector arterials; through-traffic movements are served as a lower priority.
- *Local (Minor) Streets* - Streets within residential neighborhoods connecting housing (also can be commercial, industrial, etc.) with the arterial system. Property access is the main priority; through traffic movement is not encouraged.

The Transportation Element of the Falls City Comprehensive Plan does not currently designate any streets in the city as arterials. Falls City Road, the main access to the City, has been designated as a major collector by Polk County.

N. Main Street is currently the only city street designated as a collector street. N. Main Street provides access to local streets on the north side of town and access to Bridge Street, the only vehicle bridge currently available to access the area of town located south of the Little Luckiamute River.

The remainder of the City's street system is comprised of local streets that provide direct access to the adjoining land uses.

City staff recommends upgrading the following streets to collector and arterial street status:

Arterial Streets:

- N. Main Street
- Mitchell Street
- Bridge Street
- S. Main Street
- Sheldon Avenue

Collector Streets:

- Ellis Street

- Lombard Street
- Clark Street
- Parry Street
- Chamberlain Road
- Montgomery Street
- Terrace Street.

Existing Street System Deficiencies

Traffic circulation is impeded in the City, not by high traffic volumes, but because of **limited development** of platted streets. Many streets only have a paved or graveled area wide enough to accommodate one car at a time. In many cases, street right-of-ways have not been developed for the full length of the street, leading to streets that dead-end or exist only on paper.

Another issue that impacts traffic circulation is the lack of vehicle bridges over the Little Luckiamute River. There is only **one (1) bridge** that allows automobiles to travel over the river – Bridge Street. If the Bridge Street Bridge were damaged or destroyed, residents and visitors of Falls City would have to venture several miles outside of the city to travel between the north and south portions of the City. All emergency response vehicles must also take Bridge Street. Two pedestrian-only bridges are at the south terminus of Third Street and Dayton Street. The Dayton Street Bridge was once used for vehicles. In the 2003 update to the Transportation Element of the Comprehensive Plan, the city identified the need for a secondary vehicle access across the Little Luckiamute River within the city limits.

In addition, most city streets do not contain any sidewalks to facilitate safe and convenient **pedestrian access** to and from residential developments, downtown, parks, schools and churches. The few city streets that contain sidewalks only contain limited segments and sidewalks on one side of the street. Sidewalks are also missing along streets that provide access to local schools. Currently there are no bike lanes located within the city limits.

The existing city street network also lacks adequate **storm drainage** facilities.

An additional deficiency identified in the 1998 Falls City Strategic Plan is the need to improve **street signage** in the City. Street signs do not mark many of the streets in town. In many cases the signs are broken, faded or simply missing, making it impossible for emergency responders and out-of-town visitors to find their way around. The strategic plan recommended replacing signs in the downtown core area and constructing directional signage to Falls City Parks.

An issue related to street signage is the process of assigning **street addresses** to new development. Several properties within the City have addresses that do not follow the standard street addressing grid pattern. Improper street addressing makes it difficult to find locations within the city, and can present a safety hazard in the event of an

emergency.

The Falls City Public Works Committee also noted during the public hearing that street signs do not clearly identify where actual streets are and where new ones begin and old ones end (e.g. Lewis and Lombard streets). The Committee indicated that existing street maps don't accurately reflect where the actual streets are located and that GPS devices currently in use by emergency vehicles can easily be misled. An additional concern expressed by the Public Works Committee is that most side streets in town are partially overgrown and covered with vegetation making it difficult to know exactly where right-of-way and parcel lines are located.

Additional concerns expressed during the public hearing with regards to the existing street system include excessive speed, noise and dust on residential streets, especially in the vicinity of Montgomery Street and Parry Road.

Chapter 3: Street Improvement Priorities

One of the major street system deficiencies identified in the previous section is that many streets only have a paved or gravel area wide enough to accommodate one (1) vehicle at a time. As indicated by the street inventory found in Appendix A, many of the streets located within the city limits are not paved and in substandard condition. The lack of adequately paved and widened streets within the city serves as an impediment to providing safe and efficient traffic circulation within the city. This section reviews the City's existing goals and policies for improving the local street system and recommends Local Improvement Districts (LIDs) as a potential mechanism to fund street improvements within the city. Additional funding sources for street improvements are described in Chapter 6 - *Transportation Funding Sources*.

Falls City Transportation Goals and Policies

The 2003 update to the Transportation Element of the Falls City Comprehensive Plan included a number of goals and policies related to providing a safe, convenient and efficient transportation system, consistent with Statewide Planning Goal 12 – Transportation. The City's transportation goals and policies recognize the importance of providing a balanced, multi-modal transportation system that provides safe and efficient circulation for vehicles, pedestrians and bicyclists. The policies also provide city staff and decision-makers guidance on how to prioritize future street improvements. Several of the goals and policies relevant to prioritizing future street improvements are listed below.

GOAL: *1) Provide a circulation system which is safe and efficient for vehicle users, pedestrians and bicyclists.*

POLICIES: *3) New construction shall provide bicycle and pedestrian facilities that provide safe and convenient access within, to, and from new land divisions, planned developments, shopping and industrial areas to nearby residential areas, and neighborhood activity centers, such as schools, parks and shopping.*

10) Give priority to street improvements that are necessary to achieve safety, lower maintenance costs and increase efficiency.

13) Whenever possible, existing streets shall be extended to serve urban and urbanizable areas.

Street Improvement Priorities

In the past decade, the only regular external funding source for streets has been the ODOT-administered, Special City Allotment (SCA), which typically has amounted to \$25,000 per biennium. SCA funds paid for a 5-inch asphalt overlay of an area that is 250-feet by 22-feet. It is expected that the next decade of SCA funds will be used to continue overlaying Bridge Street. Other one-time funding opportunities have been employed for projects like the N. Main Street upgrade, but those sources are not predictable.

Considering the amount of external funds available for street improvements and the City's transportation goals, it is presumed that another source of funding or financing will be needed to improve city streets. One method of financing that can be used to fund local street improvements is the formation of Local Improvement Districts (LIDs). A description of how LIDs can be used to improve city streets is provided as follows.

Local Improvement Districts (LID)

Under a local improvement district (LID), a street or other transportation improvement is built and the adjacent properties that benefit are assessed a fee to pay for the improvement. LID programs have wide application for funding new or reconstructed streets, sidewalks, water/sewer or other public works projects. The LID method is used primarily for local or collector roads, though arterials have been built using LID funds in certain jurisdictions.

A description of how to establish a LID, including the legal requirements, procedures, and funding considerations related to forming a LID, is provided at the end of this chapter.

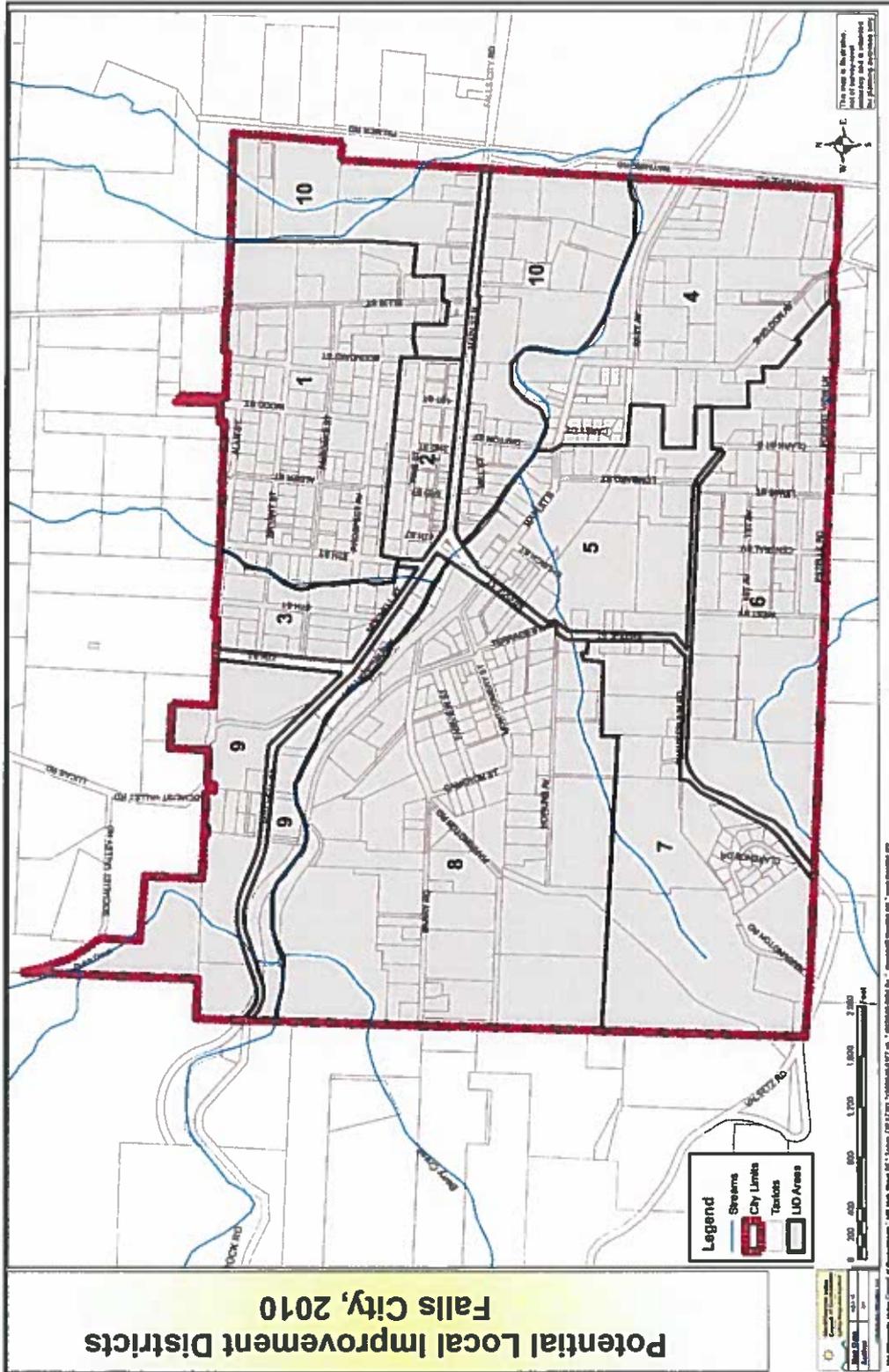
What is a Local Improvement District?

A Local Improvement District is a special public improvement area created under State of Oregon statutes. These statutes allow for public financing of public improvement projects that benefit private property. The eligible category of public improvements is quite broad and includes most major types of construction. Typical use of an LID is to install sanitary sewers, storm drainage, water lines, streets and sidewalks.

Recommended Local Improvement Districts

Based on the presumption that LIDs will be needed to fund future street improvements, ten (10) LID areas were identified (see Figure 2, Local Improvement Districts Map). The LID areas were identified based upon geographic location and areas that use and rely upon a common street network system. Planning level street construction costs may be found in Appendix B.

Figure 2 Local Improvement Districts Map



HOW TO ESTABLISH A LOCAL IMPROVEMENT DISTRICT (LID):

The following section outlines the procedural requirements needed to establish a local improvement district (LID). Note: The City's legal counsel should be consulted to review applicable state and local LID procedures prior to establishing an LID.

- **Legal Requirements** - The Oregon Constitution gives cities the power to assume authority under home rule charters to finance local improvements by special assessment. The Legislature has provided cities with a procedure for special assessment financing (ORS 223.387-399), which applies when city charter or ordinance provisions do not specify otherwise.

The Falls City Charter (Sections 50 – 68) includes local provisions applicable to the execution of street improvements and assessments.

- **Initiation** – Under the Falls City Charter, street improvement assessments may be initiated by the City Council. Some jurisdictions allow LIDs to be initiated by written petition from property owners when a minimum of 50 percent of the property owners fronting on, or benefiting from, the proposed improvement to petition the city to construct the project.

For a property to be included in the LID, it must receive some benefit from the project. For example, the benefits of a street improvement project generally accrue to just those properties abutting the street, while the benefits of a sanitary sewer trunk line will accrue to the entire area that it serves, not just to abutting properties.

- **Procedures** – For a Council-initiated LID, the Council directs preparation of an initial engineer's report and financial investigation. The Engineer's Report describes the project and provides a description of the benefit to the city, the area served, details of the project, a cost estimate, a recommended method of assessment, the estimated cost allocation to the benefited property owners, and a map of the LID. The report is then presented to the City Council with a Resolution of Intent to Create the LID. The Council may accept, modify, or reject the Engineer's Report. A neighborhood meeting is usually held to share the information with property owners prior to submitting the engineer's report to the Council.

If the report is accepted, a public hearing is set to consider any objections to the project. Notice of the public hearing is published in accordance with city charter requirements, and objections are heard and considered. After the public hearing, the Council shall determine by resolution whether the proposed improvement shall be made or not.

If the Council resolves to make the street improvements, within six (6) months, the Council may commence to make the proposed improvements upon completion of the following:

- 1- The Council shall declare by ordinance, the streets and parts of streets to be improved, the manner in which the improvements shall be made, and the time for completion thereof.
 - 2- The Council shall ascertain and determine as nearly as possible the cost of the proposed improvements, and notice shall be given to all of the affected property owners.
 - 3- The Council shall hold a public hearing for the purpose of apportioning the cost of such improvement and assessing on each lot its proportionate share of the total cost.
 - 4- Upon hearing any objections and remonstrances, the Council may assess by resolution each lot or parcel's proportionate share of the improvement costs and direct the recorder to enter a statement of such assessment in the docket of city liens.
 - 5- The Council shall advertise for bids for the completion of the street improvements and award the work to the lowest bidder.
- **Funding** - The LID is a method of providing public financing for the construction of public works improvement projects that benefit private properties. The property owners within the LID benefit area are responsible for repaying the costs of the project. If the project benefits the general public, in addition to private property within the LID, the City can assist with those costs.

The City finances the project with the sale of bonds. These bonds are redeemed with the project assessment proceeds.

At the conclusion of the construction, the City accepts the project and the final project costs are tabulated. These costs include such items as the construction payments, engineering and construction management costs, and bond issuance costs. When the total costs are tabulated, they are divided by the basis of the assessments, generally by either a front footage, or land area method, to arrive at a unit cost. The unit cost is then multiplied by the number of units associated with each property to determine each property's share of the total costs. Thus each property's cost is equitable to the benefit it receives.

If the initial costs are insufficient to pay the cost of the improvements, the Council must ascertain the deficit and after due notice to affected property owners, assess such deficit against each lot or parcel in the same manner as the original assessment.

- **Payment** - Upon completing the improvements, notice is given to affected property owners regarding collection of the assessment. If the assessment is not

paid within the specified time period, the Council shall by resolution declare the property delinquent and may order a warrant for the collection of the amount to be issued by the person authorized to collect delinquent taxes due to the city.

All moneys assessed for the improvement of a street, including a deficit, from the time of being entered in the docket of city liens, shall bear interest at the legal rate until paid or collected.

Additional Policy Considerations

- **Non-remonstrance Agreements** - To facilitate future LID formation, many cities require property owners to sign and record a non-remonstrance agreement to participate in future public improvement projects. A non-remonstrance agreement is an agreement between the City and a property owner in which the property owner agrees to be included in a future LID should the City Council determine it necessary. It is recorded on the title for the affected lot by the original property owner and runs with the title such that subsequent owners are also obligated to the formation of the LID should Council so direct. It allows the original landowner to delay the associated improvement from the time of development to a future date. The obligation is generally documented in the title report associated with each lot.

A sample non-remonstrance agreement may be found in Appendix C. Amendments to the Falls City Zoning and Development Ordinance are recommended to authorize the use of non-remonstrance agreements in certain instances in the future (Appendix D).

- **Utility Upgrades** – An additional policy consideration is the need to consider upgrades to public utilities (e.g. water, sewer lines) during the planning and construction of street improvement projects. City utilities in need of repair and upgrade should be considered as far as practicable during the street improvement process to avoid pavement cuts and repairs to recently improved streets for utility line upgrades at a later date.

Chapter 4: Future Street Network Plan

The previous chapter identified local improvement districts as a way to fund improvements to existing city streets. In addition to improvements needed to the existing city street network, there will be a need to expand the city street system to serve future development in areas that are currently vacant or underutilized. New streets and street improvements needed to serve future development will be funded primarily by developer dedications and improvements as required through the development process. Many jurisdictions also use systems development charges (SDCs) to pay for growth-related transportation needs (see Chapter 6 – *Transportation Funding Sources*).

The following chapter includes a review of existing policies and requirements intended to guide the overall growth and development of streets within the city. This chapter also identifies the location of future city streets in order to provide more specific guidance to ensure the city has a well-connected street network.

Future Street Requirements

Currently, the City does not have a future street plan to guide the overall growth and development of streets within the city in the future. The Transportation Element of the Falls City Comprehensive Plan provides the following policy guidance regarding the development of the city street network:

Transportation Policies:

13) Whenever possible, existing streets shall be extended to serve urban and urbanizable areas.

14) The City will require, when technically feasible, that streets within a proposed development connect to existing streets at more than one point.

15) The City shall designate future street locations and extensions of existing streets on the Comprehensive Plan Map and shall use this Map to help guide the design of future development.

These policies are implemented by the Falls City Zoning and Development Ordinance, which provides the following standards related to the need and location of future streets:

2.207.01.A. General Design Requirements: The location, width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the

streets. The arrangement of streets in a subdivision or major partition shall either:

1. Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or
2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical or undesirable.

2.207.01.E. *Future Extension of Streets: Where necessary to give access to, or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision; and the resulting dead-end streets may be approved without a permanent turn-around. Reserve strips and street plugs may be required to preserve the objectives of future street extensions.*

2.207.01.F. *Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical. Where topography requires, a lesser angle may be approved but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design. The intersection of an arterial or collector street with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections, which include an arterial street, shall have a minimum corner radius sufficient to allow for a roadway radius of 20 feet and maintain a uniform width between the roadway and the right-of-way line.*

2.207.02.B. *Block Size: No block shall be more than 1,000 feet in length between corner lot lines unless it is adjacent to an arterial street, or unless the topography or the adjoining streets justifies an exception. The recommended minimum length of blocks along an arterial street is 1,800 feet.*

Proposed Future Street Plan

While these policies and standards can serve as tools to help guide future street improvements, a future street network plan, can provide more specific guidance to ensure the city has a well-connected street network. The purpose of a Future Street Plan is to identify future right-of-way that the city may need in order to have and maintain, as much as possible, a balanced street network in accordance with the Oregon Transportation Planning Rule (TPR). The plan designates:

1. where existing collector/arterials could be extended or new ones could be added;
2. where new local access streets could be located to provide better connection between existing streets (grid infill); and
3. where new local access streets could be located to provide adequate connection to significant local destinations for both automobiles and pedestrians.

Figure 3 provides a map of the recommended Future Street Plan. Locations for the right-of-way and improvements were identified based on review of the existing street grid, existing parcel boundary locations, and physical constraints (such as steep slopes and floodways that might preclude economical road construction).

Needed rights-of-way for the City are generally placed along current parcel boundaries to facilitate dedication as development occurs. Existing parcels have been traversed (where necessary) in a configuration that should be conducive to future development. Layout of additional local roads should remain flexible and be performed by local developers to suit market and site constraints. However, suitable pedestrian access ways to all sides of the street network are required to the maximum extent possible.

The future street plan will continue to be refined, as development occurs, and the site constraints and opportunities of each property are addressed. The plan is intended to provide some flexibility in alignments and primarily serve to define the desired level of connectivity in each area. The City's maximum block length standard of 1,000 feet helps provide a consistent tool to evaluate modifications to the future street plan as development occurs.

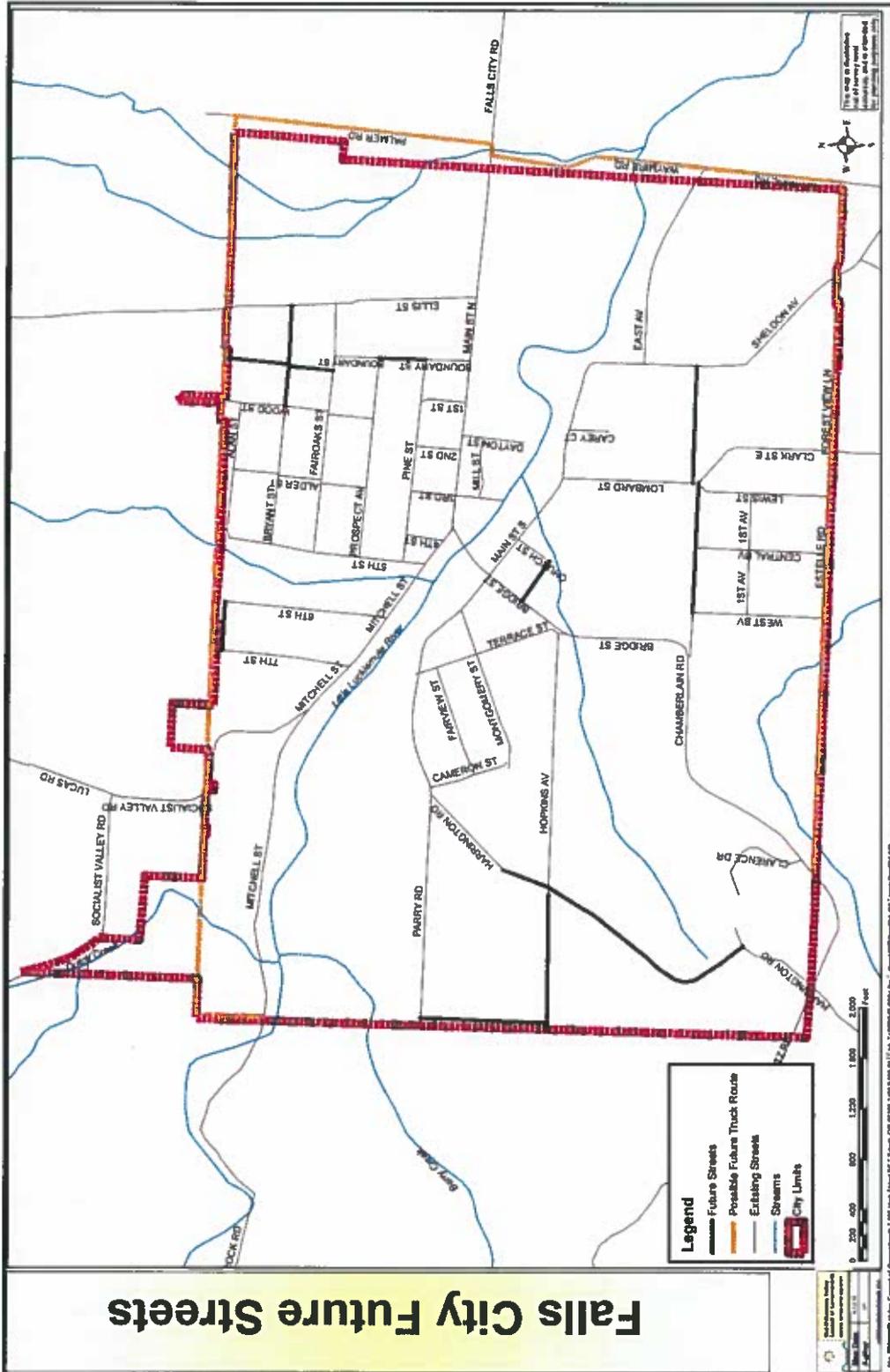
Future Bypass

The plan also considers the potential development of a truck by-pass to route truck traffic out of the downtown, off Chamberlain Road and Mitchell Streets, along the northern and southern periphery of the city limits. Local access to these roads would be severely limited to protect the through movement of these streets. This future roadway would also provide a secondary bridge access in the vicinity of Waymire Road to aid emergency response efforts.

Prior to designating a truck by-pass, the City will need to consider potential impacts to the commercial viability of the downtown associated with creating a bypass. While the creation of a truck by-pass would help slow the deterioration of Main Street and create a more pedestrian-friendly downtown, it can also divert other vehicle traffic, thereby reducing the visibility and commercial viability of the downtown. Further transportation analysis is also needed to determine the optimum alignment of the bypass. Additionally, the designation of a new truck by-pass would need to be coordinated with Polk County.

Due to the economic, financial and political implications associated with creating a by-pass, further transportation analysis is recommended prior to requiring any right-of-way dedications and street improvements for the possible future truck routes shown on the Future Street Network Plan.

Figure 3 Future Street Network Plan



Street Vacations

Within the City of Falls City there are a number of platted right-of-ways for future streets that have not been developed. Many times these right-of-ways are not needed for access or to provide public or private utilities. Oregon Revised Statutes (ORS) Chapter 271 provides a process for vacating unused right-of-way. The criteria for whether or not to approve street vacations are based upon:

- *whether the consent of the owners of the requisite area has been obtained,*
- *whether notice has been duly given and*
- *whether the public interest will be prejudiced by the vacation of such plat or street or parts thereof. [ORS 271.120]*

To further guide decisions on whether or not the City should vacate unused right-of-way, the City may adopt the following proposed Comprehensive Plan Transportation Policy on street vacations:

The City will consider vacating unused right-of-way based upon the following factors:

- 1- The street vacation is consistent with the City's transportation goals and policies.*
- 2- The right-of-way is not identified as a planned future street on the City's Future Street Plan.*
- 3- The right-of-way is not needed for existing or future private or public utilities, which cannot be reasonably accommodated through the creation of utility easements.*
- 4- The proposed vacation would not be detrimental to the public health, safety and welfare.*

Examples of undeveloped right-of-ways that appear consistent with this policy at this time include:

- K Street,
- Bryant Street between 5th and 7th Street, and
- Prospect Street between 5th and 6th streets.

Chapter 5: Street Design and Construction Standards

Oregon Administrative Rules (OAR), Chapter 660, Division 12, Section -045, Paragraph (3)(b)(D) require local governments to establish their own standards or criteria for providing streets, while Paragraph (7) states that local governments shall establish standards for local streets and accessways that minimize pavement widths and total right-of-way consistent with the operational needs of the facility.

Subsection 2.207.01(B) of the Falls City Zoning and Development Ordinance (FCZDO) contains the following street standards described in Table 1 below. The street right-of-way and pavement width standards identified in Table 1 below are for streets that are under the jurisdiction of the City of Falls City.

Table 1 Street Right-of-Way and Widths

TYPE OF STREET	MINIMUM RIGHT-OF-WAY	MINIMUM PAVEMENT
Major Arterials	60	40
Collector Streets	60	40
Minor (Local) Streets	50	32
Cul-de-Sacs (greater than 200 feet in length)	50	30
Cul-de-Sacs (less than 200 feet in length)	45	30
Radius for cul-de-sac turnaround	45	40

Source: City of Falls City Zoning & Development Ordinance (2006)

1. Right-of-way widths shown are exclusive of side slope easements, which may be required in addition for cuts or fills in steep terrain.
2. Exact width standards will be defined in improvement specifications adopted by the City.
3. The minimum roadway width may be modified by the action of the Planning Commission, taking into consideration the unique characteristics of the land, to include geography, topography, and its relation to land developments already present in the area.

Street Cross Section Standards

The 2003 Transportation Element of the Falls City Comprehensive Plan notes that when determining the minimum right-of-way and/or minimum paving widths necessary for various classifications, standard factors of 12-foot travel lanes, 14-foot center turn lanes, 5-foot bike lanes, and 5-foot sidewalks should be used. For example, a two-lane road with a center turn lane combined with sidewalks and bike paths would require a minimum 58-foot right-of-way. The Oregon Transportation Planning Rule requires bicycle lanes on all arterials and on streets carrying in excess of 3,000 vehicles per day. Installation of planter strips, utilities, or other needs would require additional width.

Table 2 below shows the City's existing street cross section standards.

Table 2 Street Cross Section Standards

Street Classification	ROW Width (ft)	Pavement Width (ft)	Sidewalk Width (ft)	Landscape Strip (ft)	Bikeway Width (ft)	Parking
Major Arterials	60	40	5	Optional	5	None
Collector Streets	60	40	5	Optional	Not required	2 sides
Minor (Local) Streets	50	32	5	Optional	Not required	1 side
Cul-de-Sacs	45-50 ¹	40 foot radius	5	Optional	Not required	Not required

¹ Cul-de-sacs less than 200 feet in length require 45 feet of right-of-way. Cul-de-sacs over 200 feet in length require 50 feet of right-of-way.

Street Design and Construction Standards

The City adopted the Mt. Angel Public Works Design Standards in 2000. Recommended changes to the City's existing street design and construction standards may be found in Appendix E.

Chapter 6: Transportation Funding Sources

Transportation projects are often paid for using a combination of funding and financing. Funding describes methods that generate revenue for transportation projects. Financing refers to how projects are paid for over time. The City of Falls City can investigate a number of funding and financing sources to construct projects described in this *Street Improvement Plan*.

For each of the practical alternatives listed below, there is a brief description and a short discussion. No effort has been made to screen alternatives according to their political or legal feasibility. The intent of the discussion is to provide an overview of a number of alternative revenue sources.

Federal Resources

SAFETEA-LU

The current federal transportation funding bill is the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (commonly known by its acronym, SAFETEA-LU), which authorizes funding for the nation's surface transportation programs. It was signed into law in August 2005 and replaced the expired Transportation Equity Act for the 21st Century (TEA-21). The law establishes funding levels and policies for the federal government's highway, highway safety, transit, motor carrier, and some rail programs administered by the U.S. Department of Transportation (DOT). Funds to local agencies within the State of Oregon are primarily allocated by the Oregon Department of Transportation (ODOT) unless dedicated to a local agency through a specific project earmark. SAFETEA-LU expires September 30, 2009 and there is currently no federal transportation funding bill to replace it; however a new bill is currently being created.

Potential: The potential for Falls City to take advantage of the next bill will likely be through lobbying to get their projects on the next ODOT STIP and applying for funds dedicated to specific types of projects, such as pedestrian and bicycle projects or downtown revitalization, for local agencies. No specifics are available at this time to what the future bill may include or how much funding will be available for local agencies.

Community Development Block Grants (CDBG)

Some of the past grants to the City of Falls City have been CDBG Program funds, which are offered through the Federal Department of Housing and Urban Development. To receive CDBG funds, cities must compete for grants based upon a formula that includes factors such as rural/urban status, demographics, local funding match, and potential benefits to low-to-moderate income residents, including new job creation. CDBG funds can also be used for emerging public work needs.

Potential: In small rural communities this program has limited application but may be a source of street funds for roads serving new developments supporting job creation or multifamily housing. A CDBG grant was recently used to help fund street improvement to N. Main Street.

Federal Economic Development Administration (EDA)

The Federal Economic Development Administration provides annual grant funding on a competitive basis for public works improvements that directly generate or retain jobs in local communities. These funds can be used for local utilities and transportation facilities that serve new development sites.

Potential: EDA funds are difficult to obtain but could be considered for targeted improvements for local industry expansion. Funding requests for EDA grants should be coordinated with Polk County and the OECD.

State Funding Options

State Motor Vehicle Fund

The State of Oregon currently collects the following fuel and vehicles fees for the State Motor Vehicle Fund:

- State Gas Tax \$0.24 per gallon
- Vehicle Registration Fee \$15.00 per year

In addition, a weight-mile tax is assessed on freight carriers to reflect their use of state highways. The revenue from the fund is used by ODOT and distributed to cities and counties throughout the state with each city's distribution based on a city's share of statewide population, and the county distribution based on a county's share of statewide vehicle registration.

Existing Application: ODOT Region 2, Polk County, and the City of Falls City each receive funds from the state Motor Vehicle Fund. ODOT uses their allocation from the State Motor Vehicle Fund for maintenance and capital purposes. Polk County and the City of Falls City typically use their funding allocation for street maintenance; however it could be used for other types of projects such as pedestrian and bicycle projects.

The state distributes approximately 16 percent of the State Motor Vehicle Fund to cities and 24 percent to counties based on a per capita rate (cities) and vehicle registration (counties). The remaining amount in the State Motor Vehicle Fund is used to maintain and enhance the state highway system. The state operates a grant program available to

cities for bicycle-related transportation system improvements and one percent of the fuel tax returned to cities and counties is designated for bike paths and lanes.

Potential: With an increase in population, number of registered vehicles, and fuel sales, the total revenue from the State Motor Vehicle Fund will rise but if the fees (tax per gallon) stay at current levels, there will be a reduction in buying power due to inflation. The gas tax will however continue to be a source of funds for the City of Falls City directly as well as through ODOT for highway and pedestrian and bicycle projects.

Special Public Works Funds (SPWF) and Immediate Opportunity Funds (IOF) — Lottery Program

Description: The State of Oregon through the Economic and Community Development Department provides grants and loans to local governments to construct, improve, and repair public infrastructure in order to support local economic development and create new jobs.

Existing Application: SPWF and IOF funds have been used in a number of cities for the construction of water, sewer, and limited street improvements.

Potential: These funds are limited to situations where it can be documented how a project will contribute to economic development and family-wage job creation.

Special Small City Allotment (SCA)

Description: SCA funding is available to incorporated cities with populations less than 5,000. This funding comes from state gas tax funds and provides grants up to \$25,000 to selected cities. Cities are asked by ODOT annually to apply for funding for projects they select on their local street system. Cities can apply only if previous SCA Grants are complete and paid for. ODOT regions evaluate project proposals from each city and rank each proposal.

Application: Region 2 is allocated several grants per year for small cities. Falls City has received several SCA Grants through ODOT in the past for pavement maintenance and sidewalk projects.

State Bicycle-Pedestrian Grants

Description: ODOT's Bicycle and Pedestrian Program administers two grant programs to assist in the development of walking and bicycling improvements: local grants and Small-Scale Urban Highway Pedestrian Improvement (SUPI) programs. For both these grants, cities that have adopted plans with identified projects will be in the best position. Cities and counties can apply for local grants for bicycle and pedestrian projects within the right-of-way of local streets. Local grants up to \$100,000 are shared 80% State and

20% local. Projects that consider the needs of children, elderly, disabled, and transit users are given special consideration.

There must be support for the project from local elected officials. Applications for the Local Grant program are mailed out to all Oregon jurisdictions every other year. In the SUPI process, cities and counties help ODOT identify sections of urban highways where improvements are needed. Examples of eligible projects include:

- completing short missing sections of sidewalks;
- ADA upgrades;
- crossing improvements (e.g., curb extensions, refuges, crosswalks); and,
- intersection improvements (e.g., islands and realignment).

SUPI projects are located on highways that have no modernization projects scheduled for the foreseeable future. Projects that have a local funding match are typically viewed the most favorably because this indicates strong local support. Projects on highways that cost more than \$100,000, require right-of-way, or have environmental impacts need to be submitted to ODOT for inclusion in the STIP. Cities and counties can apply annually for bike path or sidewalk grants of projects they have selected. Grants for projects on local street systems have a match of 20 percent and projects next to state highways have a lower match requirement. Bicycle-pedestrian grants are generally below \$125,000 per project. Project evaluation and selection is made annually statewide by the Statewide Bicycle/Pedestrian Committee.

Application: Communities in Polk County have successfully received these grants for bicycle and sidewalk improvements.

ODOT Enhancement Program

Description: The Transportation Enhancement program provides federal highway funds for projects that strengthen the cultural, aesthetic, or environmental value of the transportation system. The funds are available for twelve “transportation enhancement activities,” which are categorized as:

- Pedestrian and Bicycle projects;
- Historic Preservation related to surface transportation;
- Landscaping and Scenic Beautification; and
- Environmental Mitigation.

Existing Application: The Enhancement Program funds special or additional activities not normally required on a highway or transportation project. So far, Oregon has funded more than 150 projects for a total of \$63 million.

Potential: The City could seek Enhancement Program funds for bicycle and sidewalk projects including the multi-use path along the railroad right-of-way.

State Parks Funds

Description: Recreational Trails Grants are national grants administered by the Oregon Parks and Recreation Department (OPRD) for recreational trail-related projects, such as hiking, running, bicycling, off-road motorcycling and all-terrain vehicle riding.

Existing Application: OPRD gives more than \$4 million annual to Oregon communities for outdoor recreation project, and has awarded more than \$40 million in grants across the state since 1999. Grants can be awarded to non-profits, cities, counties, and state and federal agencies.

Potential: Funding is primarily intended for recreational trail projects.

Local Funding Options

The following programs are used by cities in the funding of transportation improvements:

General Obligation Bonds (G.O. Bonds)

Description: Bonds are often sold by a municipal government to fund transportation (or other types) of improvements, and are repaid with property tax revenue generated by that local government. Under Measure 50, voters must approve G.O. Bond sales with at least a 50 percent voter turnout.

Existing Application: Cities all over the state use this method to finance the construction of transportation improvements. For smaller jurisdictions, the cost of issuing bonds vs. the amount that they can reasonably issue creates a problem. Underwriting costs can become a high percentage of the total cost for smaller issues. According to a representative of the League of Oregon Cities, the state is considering developing a "Bond Pool" for smaller jurisdictions. By pooling together several small bond issues, they will be able to achieve an economy of scale and lower costs.

Potential: Within the limitations outlined above, G.O. bonding can be a viable alternative for funding transportation improvements when focused on specific projects.

Serial Levy/Property Taxes within the Limits of Ballot Measure 50

Description: Local property tax revenue (city or county) could be used to fund transportation improvements through a serial bond levy.

Existing Application: Revenue from property taxes ends up in the local government general fund where it is used for a variety of uses. Precedents for the use of property taxes as a source of funding for transportation capital improvements can be found throughout the state. However, with the limitations resulting from Measure 50, use of property taxes for transportation capital improvements will continue to compete with other general government services under the three percent assessed value increase allowed by Measure 50 and the local tax limits of \$15 per \$1,000 of assessed value established under Measure 5. Under Measure 50, however, there is no limit on assessed value generated by new construction.

Potential: Because the potential for increased funding from property tax revenue is limited by Ballot Measures 5 and 50 and by competition from other users who draw funds from the general fund, it is not a practical source for financing major local street improvements but could finance a package of minor improvement projects.

Local Street Utility/User Fee

Description: This fee is based on the fact that streets are utilities used by citizens and businesses just like a public water or sewer system. Fees are typically assessed by usage (e.g., average number of vehicle trips per development type).

Existing Application: This fee is used in many Oregon cities through a monthly fee charged to local dwelling units and businesses. The formulas range from a flat rate per dwelling unit and per business (\$10/month and \$25/month, for example) to rates calculated for each property individually based on the Institute for Transportation Engineers Trip Generation Handbook. Statewide the average revenue generated by local jurisdictions with a Street Utility Fee is approximately \$26 per year per resident (not per dwelling unit). Typically the revenue generated by these fees are used for operations and maintenance of the street system but the ability to use these fees for capital projects, including pedestrian and bicycle projects should be explored.

Potential: In Falls City, a \$10.00 monthly fee charged to the estimated 373 households would generate approximately \$45,000 per year in revenue from residential uses. As households grow, revenues would also continue to grow.

Local Improvement District (LID)

Description: Under a local improvement district (LID), a street or other transportation improvement is built and the adjacent properties that benefit are assessed a fee to pay for the improvement.

Existing Application: LID programs have wide application for funding new or reconstructed streets, sidewalks, water/sewer or other public works projects. The LID method is used primarily for local or collector roads, though arterials have been built using LID funds in certain jurisdictions.

Potential: LIDs continue to offer a good mechanism for funding projects such as new sidewalks and street surface upgrades. An example of a good application for an LID may be for sidewalk projects on collector streets. In the developed areas of Falls City where there are no sidewalks in front of existing developed properties, the City may be able to fund the cost of sidewalks on collector streets to provide a connected pedestrian system for current and future residents.

Urban Renewal District

Description: An Urban Renewal District is an area that is designated by a community as a “blighted area” to assist in revitalization. Funding for the revitalization is provided by urban renewal taxes, which are generated by the increase in total assessed values in the district from the time it was first established.

Existing Application: Urban Renewal Districts have been formed in over 50 cities in Oregon, generally focused on revitalizing downtowns.

Potential: Urban Renewal dollars can be used to fund infrastructure projects such as roadway, sidewalk, or transit improvements. Since funding relies on taxes from future increases in property value, the City may seek to create a District where such improvements will likely result in such an increase.

Developer Dedications of Right-of-Way and Local Street Improvements

Description: New local streets required to serve new development areas are provided at the developer’s expense to the City in accordance with the tentative and final plan approvals granted by the City Council.

Existing Application: Current City ordinance requires local streets and utilities to be provided in accordance with the adopted Land Use Plan, and the zoning ordinance and subdivision ordinance. This includes dedication of street/utility right-of-way and construction of streets, pedestrian/bicycle facilities, and utilities to City design standards.

Potential: Private developer street dedications are an excellent means of funding new local street/utility extensions, and are most effective if guided by a future street plan. This funding mechanism can apply to all new local street extensions in Falls City within the 20-year planning period.

Systems Development Charges (SDCs)

Description: Another option is to exact fees from developers to pay for off-site or oversize improvements. Sometimes fee systems generate money that goes into a common fund to pay for system wide capital facilities.

Existing Application: The Falls City Charter currently prohibits the collection of SDCs. Due to the limited availability of funds to construct street improvements, and limitations on the amount of exactions the city can require through the development review process, the city may want to consider amending this charter provision in the future.

Potential: SDCs can only be used to address growth-related transportation needs. SDCs cannot be used to fund any existing transportation deficiencies.

Mid-Willamette Valley Regional Strategy Board's Rural Investment Fund (RIF)

Description: RIF funds are a flexible source of funding for locally determined economic and community development activities.

Existing Application: RIF funds usually require a 50 percent local match contribution and demonstrate the potential for job creation as a result of completing the project.

Potential: Use of funds ranges from engineering feasibility studies to preliminary cost estimates for infrastructure improvements to environmental assessments.

Chapter 7: Conclusion and Recommendations

The existing city street network is challenged by a number of unpaved, substandard streets that dead-end or have not been improved to provide a safe and well-connected street system. Within the city limits there are a number of platted streets that exist on paper but have never been improved. Many streets that have been improved are not of sufficient width to allow two cars to pass, thus creating a potential safety hazard to the public. The lack of a well-connected and safe street network also serves as a barrier to future development, which is dependent on the city street network to provide access to new development.

Due to the lack of street improvement funding available to local governments, Local Improvement Districts (LIDs) were identified as a possible way to fund future street improvement projects by geographic areas. Chapter 3 above includes a description of each potential LID area and provides initial planning level cost estimates for recommended street improvements in each district. This information can be used to help guide future efforts to form and implement LIDs within the city limits.

Additional potential sources to help fund street improvement projects are identified in the previous chapter - *Transportation Funding Sources*. The funding sources with the greatest potential include: local improvement districts (LIDs), user fees and system development charges (SDCs).

Additional recommendations to implement this Plan include the following:

- **LID Implementation:**
 - Require property owners requesting development approval to sign and record non-remonstrance agreements.
 - The Council should work with the Public Works Committee and local residents to prioritize which LID areas should be improved first.
 - Consult city legal counsel regarding applicable LID state and local requirements.
 - Conduct neighborhood meetings with properties owners within each LID area.
 - Complete Engineering Report(s) to describe each LID project and provide a description of the benefit to the city, the area served, details of the project, a cost estimate, a recommended method of assessment, the estimated cost allocation to the benefited property owners, and a map of the LID.

- **Transportation Funding and Financing Options:**
 - Explore other transportation funding and financing sources such as the creation of Transportation System Development Charges (SDCs), Urban Renewal and Local Street Utility Fees to help fund street improvements.

- **Comprehensive Plan and Zoning Ordinance Amendments:**
 - Adopt a written policy addressing the development of city streets in pre-platted areas for proposed development, and adopt amendments to implement the policy.
 - Adopt a written policy regarding the use of non-remonstrance agreements and other street funding mechanisms for future development applications.
 - Adopt a written policy regarding future street vacations.
 - Adopt updated street **functional classifications** for arterial and collector streets.
 - Adopt updated street **construction standards**.
 - Adopt a **Future Street Network Plan**.
 - Adopt a written policy regarding the need to consider utility upgrades at the time of street improvement.
 - Adopt a written policy regarding the need to pursue traffic calming techniques to reduce speed and dust in residential areas.
 - Adopt an implementation action to respond to local traffic concerns, such as the need for traffic calming measures in residential areas. Develop a process for addressing citizen concerns that would include identifying possible alternatives to address those concerns, and making a recommendation to the Council.

- **Access Spacing Standards:**
 - Develop access control standards for arterial and collector streets within the city to assure adequate spacing and site distance between driveways and street intersections.

- **Bicycle and Pedestrian Plan:**
 - Develop a **bicycle and pedestrian plan** that inventories and identifies existing bicycle and pedestrian system deficiencies and prioritizes future improvements.
 - Develop initial engineering costs estimates to complete needed to apply for bicycle and pedestrian improvement grants.
- **Truck Bypass Feasibility Study:**
 - Complete a truck bypass transportation study to determine the feasibility and potential alignment of a future bypass truck route.
- **Street Addressing and Signage Strategy:**
 - Develop and implement a strategy to create a standardized street addressing system and construct new street signage. Examples of specific actions include: develop a grid base system for assigning street addresses in a GIS mapping system*; coordinate street addressing needs with Polk County, emergency response services and the post office; complete an analysis to identify incorrect addresses; notify properties with incorrect addresses; and obtain cost estimates to install new street signs.

*Cost permitting, the GIS mapping system could also include information on the location of individual water meters and other public utilities.

APPENDIX A: Street Inventory

FALLS CITY STREET INVENTORY 2009

Street Segment	Jurisdiction	Classification	Right-of-way Width (feet)	Street Width (feet)	Surface (e.g. asphalt, gravel, unimproved)	Pavement Condition (very good, good, fair, poor)	Curbs (yes or no)	Sidewalk (yes or no)
1st Avenue	City	local	40	15	gravel	na	no	no
1st Street	City	local	60	20	gravel	na	no	no
2nd Avenue	City	local	40	15	gravel	na	no	no
2nd Street	City	local	60	15	gravel	na	no	no
3rd Street								
N.Main to Pine	City	local	60	15	asphalt	fair	no	yes-east
N.Main to river	City	local	60	20	asphalt	poor	no	no
4th Street	City	local	60	20	asphalt	fair	no	no
5th Street								
Mitchell to Fairoaks Street	City	local	60	20	asphalt	fair	no	no
Fairoaks to Alan Street	City	local	60	15	gravel	na	no	no
6th Street	City	local	50	10	gravel	na	no	no
7th Street	City	local	60	10-15	gravel	na	no	no
Alan Street	City	local	50	15	gravel	na	no	no
Alder Street	City	local	50	15	gravel	na	no	no
Black Rock Road								
W.end of Mitchell St	Polk County	resource	60?	17	asphalt/concrete	good	no	no
Boundary Street	City	local	40	15	gravel	na	no	no
Bridge Street								
at bridge	City	arterial	60	34	asphalt	very good	yes	yes
at Hopkins Ave	City	local	60	20	asphalt	good	no	no
Bryant Street	City	local	50	15	gravel	na	no	no
Cameron Street	City	local	50	15	gravel	na	no	no

FALLS CITY STREET INVENTORY 2009

Street Segment	Jurisdiction	Classification	Right-of-way Width (feet)	Street Width (feet)	Surface (e.g. asphalt, gravel, unimproved)	Pavement Condition (very good, good, fair, poor)	Curbs (yes or no)	Sidewalk (yes or no)
Carey Court	City	local	30	18	asphalt	very good	no	no
Central Blvd.	City	local	40	10-15	gravel	na	no	no
Church Street	City	local	60	33	asphalt	very good	yes-east no-west	yes-east no-west
Clark Street	City	local						
Lombard St southeast 345 feet	City	local	40	20	asphalt	good	no	no
To Forest View Ln/south citylimits	City	local	40	15	gravel	na	no	no
Clarence Drive	Private	local	40	27	asphalt	fair	no	yes-north no-south
Chamberlain Road								
Bridge Street to south citylimits	City	arterial	40	25	paved	fair	no	no
Bridge to Lombard Street	City	local	40	19	gravel	na	no	no
Dayton Street								
to 3' foot bridge	City	local	50	15	paved	good	no	no
East Avenue		local	40	15	gravel	na	no	no
Ellis Street								
Main to Fair Oaks	City	local	40	20	asphalt	very good	no	no
Fair Oaks to north citylimits	City	local	40	20	asphalt	fair	no	no
Estelle Road	City	local	20	15	gravel	na	no	no
Fair Oaks Street	City	local	50	20	gravel	fair	no	no
Fairview Street	City	local	60	15	gravel	na	no	no
Forest View Lane	City	local	40	15	gravel	na	no	no
Harrington Road	City	local	20 (varies)	10	gravel	na	no	no
Hopkins Avenue	City	local	30	15	gravel	na	no	no

FALLS CITY STREET INVENTORY 2009

Street Segment	Jurisdiction	Classification	Right-of-way Width (feet)	Street Width (feet)	Surface (e.g. asphalt, gravel, unimproved)	Pavement Condition (very good, good, fair, poor)	Curbs (yes or no)	Sidewalk (yes or no)
Lewis Street								
Lombard to First Street	City	local	65	20	asphalt	good	no	no
Lombard Street	City	local	40	20	asphalt	good	no	no
N Main Street								
E.Citylimits to Boundary St	City	collector	60	25-40	asphalt/concrete	very good	yes	yes
Boundary St to Mitchell St	City	collector	80	40	asphalt/concrete	very good	yes	yes
S Main Street	City	local	60	20	asphalt	fair-poor	no	no
Mill Street	City	local	40	20	asphalt	fair-poor	no	no
Mitchell Street								
N.Main to Socialist Valley Rd at fork to Socialist Valley	City	local	60	23	asphalt	very good	no	no
Montgomery Street	City	local	60	20	gravel	na	no	no
S.Main to Terrace	City	local	60	20	gravel	na	no	no
Terrace to alley east of Cameron Street	City	local	60	15	gravel	na	no	no
Alley to Cameron	City	local	30 - 40	15	gravel	na	no	no
Parry Street								
Bridge to Montgomery Street	City	local	60	22	asphalt	good	yes/south	yes (south)
Bridge to Cameron	City	local	60	22	asphalt	good	no	no
Parry Rd	City	local	38	20	asphalt	good	no	no
Pine Street	City	local	60	15	gravel	na	no	no
Prospect Street	City	local	60	20	asphalt	very good	no	no
Sheldon Avenue	City	local	60	20	asphalt	very good	no	no
Terrace Street	City	local	50 / 55	15	gravel	na	no	no
Unnamed road to city park	City	local	NONE	15	gravel	na	no	no
Vine Street	City	local	60	15	gravel	na	no	no

FALLS CITY STREET INVENTORY 2009

Street Segment	Jurisdiction	Classification	Right-of-way Width (feet)	Street Width (feet)	Surface (e.g. asphalt, gravel, unimproved)	Pavement Condition (very good, good, fair, poor)	Curbs (yes or no)	Sidewalk (yes or no)
West Blvd.	City	local	39	15-18	gravel	na	no	no
Wood Street	City	local	50	15	gravel	na	no	no

APPENDIX B: Street Improvement Costs

FALLS CITY IMPROVEMENT COST ESTIMATES

Street Segment	Estimated cost for paving	Sum of		Street w/curb&gutter & sidewalk
		Street cost w/o sidewalks	Street cost w/curb&gutter & sidewalk	
1st Avenue	\$ 153,413	\$ 246,473	\$ 281,123	\$ 281,123
1st Street	\$ 45,540	\$ 76,560	\$ 88,110	\$ 88,110
2nd Avenue	\$ 159,390	\$ 252,450	\$ 287,100	\$ 287,100
2nd Street	\$ 53,130	\$ 84,150	\$ 95,700	\$ 95,700
3rd Street	\$ 43,168	\$ 74,188	\$ 85,738	\$ 85,738
4th Street	\$ 25,708	\$ 50,430	\$ 59,635	\$ 59,635
5th Street	\$ 84,456	\$ 162,288	\$ 191,268	\$ 191,268
6th Street	\$ 223,326	\$ 346,090	\$ 391,800	\$ 391,800
7th Street	\$ 173,712	\$ 270,908	\$ 307,098	\$ 307,098
Alan Street	\$ 168,000	\$ 262,000	\$ 297,000	\$ 297,000
Alder Street	\$ 176,400	\$ 275,100	\$ 311,850	\$ 311,850
Black Rock Road				
	\$ 311,167	\$ 549,551	\$ 638,311	\$ 638,311
	\$ 55,440	\$ 86,460	\$ 98,010	\$ 98,010
Bridge Street	\$ 183,600	\$ -	\$ -	\$ -

FALLS CITY IMPROVEMENT COST ESTIMATES

Street Segment	Estimated cost for paving	Sum of		Street w/curb&gutter & sidewalk
		Street cost w/o sidewalks	Street w/curb&gutter & sidewalk	
at Hopkins Ave	\$ 183,600	\$ 352,800	\$ 415,800	
Bryant Street	\$ 168,000	\$ 262,000	\$ 297,000	
Cameron Street	\$ 103,488	\$ 161,392	\$ 182,952	
Carey Court	\$ 39,845	\$ 74,719	\$ 87,704	
Central Blvd.	\$ 177,408	\$ 276,672	\$ 313,632	
Church Street	\$ 5,155	\$ 38,807	\$ 51,337	
Lombard St southeast 345 feet To Forest View Ln/south citylimits	\$ 35,190 \$ 137,760	\$ 67,620 \$ 214,840	\$ 79,695 \$ 243,540	
Clarence Drive	\$ 34,368	\$ 94,528	\$ 116,928	
Chamberlain Road				
Bridge Street to south citylimits Bridge to West Blvd	\$ 163,800 \$ 79,200	\$ 255,450 \$ 110,220	\$ 289,575 \$ 121,770	
Dayton Street to 3' foot bridge	\$ 61,425	\$ 103,725	\$ 119,475	
East Avenue	\$ 269,976	\$ 421,034	\$ 477,279	
Ellis Street Main to Fair Oaks				

FALLS CITY IMPROVEMENT COST ESTIMATES

Street Segment	Estimated cost for paving	Sum of		Street w/curb&gutter & sidewalk
		Street cost w/o sidewalks	Street cost w/curb&gutter & sidewalk	
Fairoaks to north citylimits	\$ 244,800	\$ 470,400	\$ 554,400	
Estelle Road	\$ 137,214	\$ 230,274	\$ 264,924	
Fairoaks Street	\$ 285,408	\$ 471,716	\$ 541,086	
Fairview Street	\$ 151,704	\$ 236,586	\$ 268,191	
Forest View Lane	\$ 106,176	\$ 165,584	\$ 187,704	
Harrington Road	\$ 124,877	\$ 197,069	\$ 223,949	
Hopkins Avenue	\$ 323,190	\$ 513,540	\$ 584,415	
Lewis Street				
Chamberlain to First Street	\$ 44,370	\$ 85,260	\$ 100,485	
First to Second Street	\$ 98,784	\$ 154,056	\$ 174,636	
Lombard Street	\$ 109,956	\$ 211,288	\$ 249,018	
N Main Street				
E.Citylimits to Boundary St	\$ -	\$ -	\$ -	
Boundary St to Mitchell St	\$ -	\$ -	\$ -	
S Main Street	\$ 193,290	\$ 371,420	\$ 437,745	
Mill Street	\$ 49,470	\$ 95,060	\$ 112,035	
N.Main to Socialist Valley Rd	\$ 145,527	\$ 313,787	\$ 376,437	

FALLS CITY IMPROVEMENT COST ESTIMATES

Street Segment	Estimated cost for paving	Sum of		Street w/curb&gutter & sidewalk
		Street cost w/o sidewalks	Street	
at fork to Socialist Valley	\$ 365,184	\$ 603,568	\$ 692,328	
Montgomery Street				
S.Main to Terrace	\$ 46,368	\$ 76,636	\$ 87,906	
Terrace to alley east of Cameron Street	\$ 90,216	\$ 140,694	\$ 159,489	
Alley to Cameron	\$ 72,912	\$ 113,708	\$ 128,898	
Parry Road				
Bridge to Cameron (Parry St. on zoning map)	\$ 200,124	\$ 384,552	\$ 453,222	
Parry Rd	\$ 187,170	\$ 359,660	\$ 423,885	
Pine Street	\$ 270,648	\$ 422,082	\$ 478,467	
Prospect Street	\$ 158,100	\$ 303,800	\$ 358,050	
Sheldon Avenue	\$ 228,480	\$ 439,040	\$ 517,440	
Socialist Valley Road	\$ 196,224	\$ 306,016	\$ 346,896	
Terrace Street	\$ 186,480	\$ 290,820	\$ 329,670	
West Blvd.	\$ 177,408	\$ 276,672	\$ 313,632	
Wood Street	\$ 138,600	\$ 216,150	\$ 245,025	
Vine Street	\$ 126,840	\$ 197,810	\$ 224,235	

Appendix C: Sample Non-Remonstrance Agreement

**AFTER RECORDING
RETURN TO:**

**UNTIL A CHANGE IS MADE
SEND ALL TAX STATEMENTS TO:**

City Recorder
City of Falls City
P.O. Box 160
Falls City, OR 97344

NO CHANGE

Original Deed REEL ____, PAGE

NON-REMONSTRANCE AGREEMENT

This Agreement made this ____ day of _____, by and between the City of Falls City, an Oregon municipal corporation, hereinafter called the City, and _____, hereinafter called the Owners of the following described real property, to wit:

See Exhibit "A"

Witnesseth:

Whereas, owners have applied to City for approval with respect to development of the subject property,

Whereas, approval has been conditioned upon Owner's execution of this Non-Remonstrance Agreement in order to insure proper and efficient urbanization in the area and extension and construction of public improvements in compliance with the comprehensive plan and other applicable development standards and criteria: now, therefore,

In consideration of approval by City of Owner's application referenced above, the undersigned owner does hereby promise and agree as follows:

1) To waive the right to remonstrate against any local improvement project benefiting the subject property respecting _____, and the undersigned hereby fully and completely waives the right to later remonstrate against such improvement projects.

2) The undersigned further promises, agrees, declares, and dedicates that the agreement set forth above and the promises contained herein do constitute a covenant and restriction henceforth running with the land described above and shall henceforth be binding upon the undersigned, his, her or their heirs, successors or assigns and directs that this agreement shall be filed for record in the deed records of the appropriate county as affecting the title to the property described above.

IN WITNESS WHEREOF, the Owner's have executed the above as of the date first above written.

Owner(s)

Mailing address of Owner(s)

STATE OF OREGON)
) SS
County of _____)

On this _____ day of _____, 20____, Personally appeared _____, who being duly sworn did say that he/she is the _____ of _____, an Oregon corporation and that this instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and acknowledged this instrument to be that Corporation's voluntary act and deed.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

NOTARY PUBLIC FOR OREGON
My Commission Expires: _____

STATE OF OREGON)
) SS
County of _____)

THIS CERTIFIES that on the _____ day of _____ 20____, before me, the undersigned notary personally appeared _____, known to me to be the identical person(s) whose name(s) is/are subscribed to the within instrument and acknowledged that he/she/they executed the same for the purpose therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

NOTARY PUBLIC FOR OREGON
My Commission Expires: _____

Approved:

City Administrator

Appendix D: Proposed Comprehensive Plan and Zoning Ordinance Amendments

Proposed Amendments to the Falls City Comprehensive Plan

Proposed language is shown in **bold underline**. Language proposed for deletion is shown ~~struck through~~.

TRANSPORTATION ELEMENT

This chapter of the Falls City Comprehensive Plan provides a guide for improvement of the City's streets and circulation system. Consideration of other modes of transportation is also incorporated into the Plan.

Street Network Plan

The development of the street network plan is a process of evaluating how well the City's current transportation system might serve existing and planned development. The evaluation process consisted of reviewing how the proposed street network achieves stated goals and objectives in light of the projected build-out of the urban area and projected 2015 traffic volumes. Other criteria included potential environmental constraints, overlapping jurisdictions, impacts on rural/resource lands and financial feasibility. The street network plan is intended to: (1) provide the local jurisdiction and developers direction for the location of future streets; (2) ensure a safe and efficient street circulation system; (3) guide and assure the dedication or acquisition of rights-of-way for streets to establish adequate pavement widths; and (4) aid in the development of a capital improvement program including priorities for expenditures and design standards.

While the street network plan identifies certain streets of particular importance for traffic circulation, most local streets are built as development occurs. It is important that the City requires local streets to connect with existing and planned streets wherever possible. Residential areas with only one primary access point places residents at risk in the event of a major emergency. Multiple access points, achieved through a well-connected street network, is important to ensure that emergency services are not cut off and that local access is not eliminated or greatly lengthened in the event that one access is closed. In addition, a well-connected street network with numerous alternative routes reduces the overall traffic volume on any one route which results in a more efficient use of existing transportation resources and also creates a more bicycle and pedestrian friendly environment. Good connectivity is achieved through the application of standards contained in the Falls City Zoning and Development Ordinance.

Functional Classification of Streets

Streets serve a variety of needs including transportation through an area and direct access to adjacent property. In order to serve this wide range of uses effectively, the street network is designed to serve a primary function within a structured hierarchy. The street network plan should also achieve a balance between the demands for mobility and access.

The roadway functional classification system groups city streets into categories based upon the character of service they are intended to provide. Identification of the appropriate roadway functions is the basis for planning roadway improvements and establishing appropriate standards (right-of-way, roadway width, design speed).

The three (3) general types of roadway functional classifications are described as follows:

- Arterials – Intra- and inter-community roadways connecting community centers with major facilities. In general, arterials serve both through traffic and local traffic. Access should be partially controlled with infrequent access to abutting properties.
- Collectors - Streets connecting residential neighborhoods with smaller community centers and facilities as well as access to the arterial system. Property access is generally a higher priority for collector arterials; through-traffic movements are served as a lower priority.
- Local (Minor) Streets - Streets within residential neighborhoods connecting housing (also can be commercial, industrial, etc.) with the arterial system. Property access is the main priority; through traffic movement is not encouraged.

The traffic circulation system is, therefore, based upon three distinctive and inter-related types of streets: Arterial, Collector and Local. The following functional classifications are defined in the 1998 Polk County Transportation System Plan.

~~Arterial: ————— Link cities and larger towns (and other traffic generators, such as major resort areas, that are capable of attracting travel over similarly long distances) and form an integrated network providing interstate and inter-county service; spaces at such intervals, consistent with population density, so that all developed areas of the state are within a reasonable distance of an arterial highway; and provide (because of the two previous characteristics) service to corridors with trip lengths and travel density greater than those predominately served by rural collector or local systems. Minor arterials therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.~~

~~Major Collectors: — Provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance, such as consolidated schools, shipping ports, county parks, important mining and agricultural areas, etc; link these places with nearby larger towns or cities, or with routes of higher classification; and serve the more important inter-county travel.~~

~~Minor Collectors: — Are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road; and provide service to the remaining smaller communities; and link the locally important traffic generators with their rural hinterland.~~

~~Rural-Local: ———— Serve primarily to provide access to adjacent land; and provide service to travel over relatively short distances as compared to collectors or other higher systems. Local roads will constitute the rural mileage not classified as part of the principal arterial, minor arterial, or collector systems.~~

~~Resource Roads: ———— Provide a connection between resource areas, and principal and minor arterials. These roadways are generally rural and provide access to agricultural and timber roadways, to facilitate movement of goods and services. Resource collectors provide an important and needed function in serving areas that contribute to the economic base of the community even though they may have low volumes of traffic.~~

Inventory and Evaluation of the Street Network

The street network plan evaluates how well the City's street system can accommodate existing and projected future traffic volumes. Based on the functional classifications identified above, the City's arterial network is designed to provide a higher level of mobility than collectors and local streets by carrying the highest traffic volumes and the longest trip lengths. As a result, capacity deficiencies on the arterial system will also affect the performance of the local and collector street systems as well. An inventory of the city collector street system is provided in Appendix A Table 1.

The following describes the functional classifications of the street system:

Arterial Streets

The City has designated the following streets as arterials within the city limits:

- N. Main Street,
- Mitchell Street, and
- Bridget Street.

Collector Streets

The City has designated the following streets as collectors within the city limits:

- S. Main Street,
- Ellis Street,
- Lombard Street,
- Clark Street,
- Parry Street,

- Chamberlain Road, and
- Sheldon Avenue.

Local Streets

Local streets comprise the remainder of the City's street system. These streets provide direct access to the adjoining land uses and efficient connectivity to the City's collector streets.

Resource Roads

~~Black Rock Road, which runs through the northwest corner of the City, has been designated a resource road by Polk County.~~

Arterials

~~There are currently no streets in Falls City designated arterials.~~

Collector Streets

~~Falls City Road, which provides the main access to the City, has been designated a major collector by Polk County. Falls City Road becomes North Main Street at the city limits.~~

~~The City has designated North Main Street from which local streets on the north side of town gain access, a minor collector.~~

Local Streets

~~Local streets comprise the remainder of the City's street system. These streets provide direct access to the adjoining land uses and efficient connectivity to the City's collector street, North Main Street.~~

**TRANSPORTATION ELEMENT—TABLE 1
COLLECTOR STREET INVENTORY**

Street	Section	Functional-Class	Length (w/in City)	Jurisdiction	ROW Width	Pavement Width	Surface	Sidewalks Left/Right	Curbs Left/Right
Black Rock Road	W. End of Mitchell Street	Resource Road	325 feet	Polk County	60 feet		AC	n/n	n/n
Falls City Road	West of Palmer Road	Collector	190 feet (out of city)	Polk County	60 feet		AC	n/n	n/n
North Main Street	E. City limits to Boundary Street	Collector	1,470 feet	Falls City	60 feet		AC	y/y	y/y
North Main Street	Boundary Street to Mitchell Street	Collector	1,300 feet	Falls City	80 feet		AC	y/y	y/y

Traffic Circulation

Streets in the northern part of the city are laid out in a grid pattern. In the southern part of the city, streets are in a more irregular pattern. Traffic circulation is impeded in the City, not by high traffic volumes, but because of limited development of platted streets. Many streets only have a paved or graveled area wide enough to accommodate one car at a time. In many cases, street right-of-ways have not been developed for the full length of the street, leading to streets that dead-end or exist only on paper. ~~The City may want to develop a written policy and criteria for determining if undeveloped right-of-ways should be vacated.~~

Another issue that impacts traffic circulation is the lack of vehicle bridges over the Little Luckiamute River. There is only one bridge that allows automobiles to travel over the river – Bridge Street. If the Bridge Street Bridge were damaged or destroyed, residents and visitors of Falls City would have to venture several miles outside of the city to travel between the north and south portions of the City. All emergency response vehicles must also take Bridge Street. Two pedestrian-only bridges are at the south terminus of Third Street and Dayton Street. The Dayton Street Bridge was once used for vehicles. The City would like to develop a secondary vehicle access across the Little Luckiamute River within the city limits.

Figure 1 includes a map of the existing city street network.

Street Signage

The 1998 Falls City Strategic Plan identified the need to improve street signage in the City. Street signs do not mark many of the streets in town. In many cases the signs are broken, faded or simply missing, making it impossible for out-of-town visitors to find their way around. The strategic plan recommends replacing signs in the downtown core area and constructing directional signage to Falls City Parks.

Street Addressing

An issue related to street signage is the process of assigning street addresses to new development. Several properties within the City have addresses that do not follow the standard street addressing grid pattern. Improper street addressing makes it difficult to find locations within the city, and can present a safety hazard in the event of an emergency.

Future Street Network Plan

The purpose of a Future Street Network Plan is to identify future right-of-way that the City may need in order to have and maintain, as much as possible, a balanced street network in accordance with the Oregon Transportation Planning Rule (TPR). The plan designates:

1. where existing collector/arterials could be extended or new ones could be added;
2. where new local access streets could be located to provide better connection between existing streets (grid infill); and
3. where new local access streets could be located to provide adequate connection to significant local destinations for both automobiles and pedestrians.

Figure 2 provides a map of the Future Street Network Plan. Locations for the right-of-way and improvements were identified based on review of the existing street grid, existing parcel boundary locations, and physical constraints (such as steep slopes and floodways that might preclude economical road construction).

Needed rights-of-way for the City are generally placed along current parcel boundaries to facilitate dedication as development occurs. Existing parcels have been traversed (where necessary) in a configuration that should be conducive to future development. Layout of additional local roads should remain flexible and be performed by local developers to suit market and site constraints. However, suitable pedestrian access ways to all sides of the street network are required to the maximum extent possible.

The future street plan will continue to be refined, as development occurs, and the site constraints and opportunities of each property are addressed. The plan is intended to provide some flexibility in alignments and primarily serve to define the desired level of connectivity in each area. The City's maximum block length standard of 1,000 feet helps provide a consistent tool to evaluate modifications to the future street plan as development occurs.

Future Bypass/Truck Route

Large truck traffic through Falls City generally consists of logging trucks and delivery vehicles. Currently truck traffic travels through the City using the arterials Mitchell and N. Main streets, in addition to Chamberlain/Bridge Street from the south.

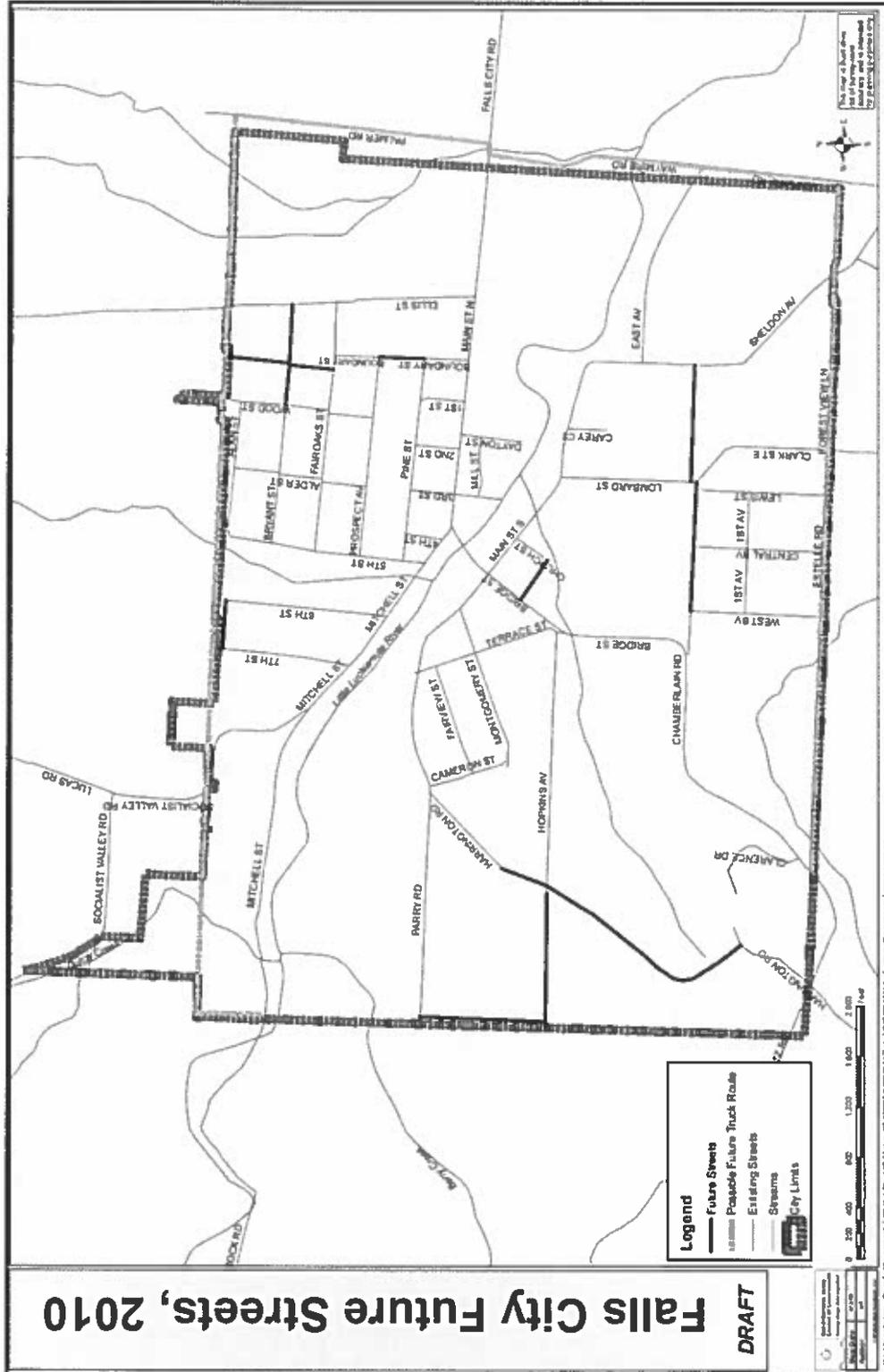
The Future Street Network Plan also considers the potential development of a truck by-pass to route truck traffic out of the downtown, off Chamberlain Road and Mitchell Streets, along the northern and southern periphery of the city limits. Local

access to these roads would be severely limited to protect the through movement of these streets. This future roadway would also provide a secondary bridge access in the vicinity of Waymire Road to aid emergency response efforts.

Prior to designating a truck by-pass, the City will need to consider potential impacts to the commercial viability of the downtown associated with creating a bypass. While the creation of a truck by-pass would help slow the deterioration of Main Street and create a more pedestrian-friendly downtown, it can also divert other vehicle traffic, thereby reducing the visibility and commercial viability of the downtown. Further transportation analysis is also needed to determine the optimum alignment of the bypass. Additionally, the designation of a new truck by-pass would need to be coordinated with Polk County.

Due to the economic, financial and political implications associated with creating a by-pass, further transportation analysis is needed prior to requiring any right-of-way dedications and street improvements for the possible future truck routes shown on the Future Street Network Plan.

Figure 2, Falls City Future Streets



Street Standards

Oregon Administrative Rules (OAR), Chapter 660, Division 12, Section -045, Paragraph (3)(b)(D) require local governments to establish their own standards or criteria for providing streets, while Paragraph (7) states that local governments shall establish standards for local streets and accessways that minimize pavement widths and total right-of-way consistent with the operational needs of the facility. Paragraph 7 also states that this requirement need not be adopted as land use regulations.

Section 4 of the Falls City Zoning and Development Ordinance contains the following street standards:

TRANSPORTATION ELEMENT – TABLE 2
STREET RIGHT-OF-WAY AND WIDTHS

<u>TYPE OF STREET</u>	<u>MINIMUM RIGHT-OF-WAY</u>	<u>MINIMUM PAVEMENT</u>
Major Arterials	60	40
Collector Streets	60	40
<u>Local</u> (Minor) Streets	50	32
Cul-de-Sacs (greater than 200 feet in length)	50	30
Cul-de-Sacs (less than 200 feet in length)	45	30
Radius for cul-de-sac turnaround	45	40

Source: City of Falls City Zoning & Development Ordinance (2000)

Note: Falls City Road, a major collector, is a county owned and maintained road, and as such, Polk County Standards apply. The standard for major collectors is 68 feet for right-of-way, and 44 feet minimum pavement width.

Note: When determining the minimum right-of-way and/or minimum paving widths necessary for various classifications, standard factors of 12-foot travel lanes, 14-foot center turn lanes, 5-foot bike lanes, and 5-foot sidewalks should be used. For example, a two-lane road with a center turn lane combined with sidewalks and bikepaths would require a minimum 58-foot right-of-way. Installation of planter strips, utilities, or other needs would require additional width.

BIKE/PEDESTRIAN NETWORK

With the exception of several small trails in the city parks there are no bicycle facilities and few pedestrian facilities in the city. A downtown revitalization project completed in 2002 added pedestrian facilities in the downtown area of Falls City. These pedestrian improvements included sidewalks, ADA compliant curb cuts and curb “bump outs” at intersections.

In the 1998 Falls City Strategic Plan, the city identified a goal of building a pedestrian network for Falls City. Currently, pedestrians from the city's neighborhoods must negotiate a maze of disconnected sidewalks to walk to important destinations such as the North Main Street downtown district (City Hall, Falls City High School, grocery store and churches), and post office. Even on Falls City's most traveled roads, in most cases, pedestrians must walk in the roadways to reach their destinations. This situation is made all the more dangerous by the high volume of logging traffic that threads its way through the City on any given day.

To alleviate these issues, the city is proposing to develop pedestrian networks on the south and north sides of town. On the south side of town, the goal is to develop a pedestrian route from residential areas to the downtown core area. Currently many "southside" residents use the Bridge Street vehicular bridge to cross to the north side of the city. Sidewalks on the vehicular bridge are very substandard; specifically, they are 3.5 feet wide, elevated over one foot off the roadway, and without ramps for persons in wheelchairs. This bridge is particularly hazardous due to the high volume of truck traffic that crosses the bridge every day.

The City's pedestrian network plan calls for pedestrian traffic bound for the north side of the City to be diverted away from the vehicular bridge on Bridge Street and over to the pedestrian bridges on Dayton and Third Streets. To accomplish this, the City proposes to build new sidewalk and repair existing sidewalk on South Main Street (the street that runs parallel to the river), Bridge Street, and Lombard Street and on the north and south approaches to the Dayton Street Bridge. Upon completion of this element of the project, pedestrian traffic will be collected from the south side's residential neighborhoods onto the Bridge Street and Lombard Street collectors. From Bridge and Lombard Streets, pedestrians will make their way down to South Main Street where they will be able to safely access the Dayton or Third Street pedestrian bridges. These improvements, a mix of construction of new sidewalk, and repair of existing sidewalk, will enable Falls City's "southside" citizens to get to the downtown core without having to walk on the City's busier roads.

The City also proposes to complete a new section of sidewalk that will connect existing sidewalk in front of the post office on Parry Road with existing sidewalk on South Main Street.

Improvements to the development of a pedestrian network on the north side of town include the continuation of sidewalk improvements along North Main Street, and an ADA accessible ramp at the crosswalk in front of Prospect Street Grade School. Currently, disabled individuals are unable to cross the street between the grade school and the school playground without outside assistance due to the absence of an ADA ramp. As previously stated, sidewalks along portions of North Main Street have been developed with the downtown improvements in 2002.

The City does not have the resources to develop all of the proposed pedestrian or bicycle facilities. Some pedestrian or bicycle facilities may be constructed as land is developed. Section 5.030 of the Falls City Zoning and Development Ordinance requires construction

of sidewalks as a condition of approval for land divisions. In areas of the City that are already developed, funding for pedestrian or bicycle facilities must be obtained through grants or loans.

TRUCK ROUTE

~~Large truck traffic through Falls City generally consists of logging trucks and delivery vehicles. There are no indications that truck traffic will greatly increase during the period of this plan. Currently truck traffic travels through the City using the arterials and those are expected to continue as the undesignated truck routes.~~

RAILWAY

There is no rail service to Falls City. Rail right-of-way transverses the City, but the tracks have been removed. There is no evidence to indicate that rail service will return to Falls City in the near future. There have been suggestions that the rail right-of-way be converted to pedestrian trails.

AIRPORT

The nearest airport is located 15 miles away in Independence. For commercial air travel, however, Falls City residents must travel over 70 miles to either Portland or Eugene.

PUBLIC TRANSPORTATION

Public transportation is not currently available in Falls City. The nearest public transportation system provides service between Dallas, Independence, Monmouth and Salem.

IMPROVEMENTS/ACTIONS

There are no major improvements or actions necessitated by this element; however, the steps below are documented for the City's consideration.

- 1. Develop a bicycle and pedestrian plan that inventories and identifies existing deficiencies prioritizes future improvements and provides initial engineering cost estimates for prioritized bicycle and pedestrian improvement projects.**
- 21. Build an ADA accessible sidewalk network that connects the city's "southside" residential neighborhoods with the city's downtown commercial area, schools, churches and post office. The completion of the proposed improvements will allow the City's children, senior citizens, and other pedestrians to utilize a safe network of pedestrian right-of-ways.**
- 32. Construct north side sidewalk improvements resulting in the completion of**

one continuous stretch of sidewalk on N. Main Street throughout Falls City's downtown. These improvements will also result in the completion of an ADA accessible sidewalk ramp for the Prospect Street Crosswalk between the Falls City Grade School and the school playground.

43. Replace street signs in the downtown core area and construct directional signage to Falls City parks.

FINANCING

Transportation system improvements are usually capital-intensive projects that can place a great fiscal burden on a community. For this reason, transportation projects are often paid for using a combination of funding and financing. Funding describes methods that generate revenue for transportation projects. Financing refers to how projects are paid for over time.

The City can investigate a number of funding and financing sources to construct transportation improvement projects. The following is a list and brief description of transportation funding and financing opportunities. No effort has been made to screen alternatives according to their political or legal feasibility. The intent of the discussion is to provide an overview of a number of alternative revenue sources.

~~Fortunately, there are several methods for funding such projects. Communities can seek grants from state or federal agencies, or they can ask those who generate the need for the project to either pay for or share in the costs. In many instances developers are asked to share the expenses of new construction, either through right of way dedication or roadway construction, or both. The following is a list and brief discussion of funding possibilities:~~

Federal Resources

SAFETEA-LU

The current federal transportation funding bill is the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (commonly known by its acronym, SAFETEA-LU), which authorizes funding for the nation's surface transportation programs. It was signed into law in August 2005 and replaced the expired Transportation Equity Act for the 21st Century (TEA-21). The law establishes funding levels and policies for the federal government's highway, highway safety, transit, motor carrier, and some rail programs administered by the U.S. Department of Transportation (DOT). Funds to local agencies within the State of Oregon are primarily allocated by the Oregon Department of Transportation (ODOT) unless dedicated to a local agency through a specific project earmark. SAFETEA-LU expires September 30, 2009 and there is currently no federal transportation funding bill to replace it; however a new bill is currently being created.

Potential: The potential for Falls City to take advantage of the next bill will likely be through lobbying to get their projects on the next ODOT STIP and applying for funds dedicated to specific types of projects, such as pedestrian and bicycle projects or downtown revitalization, for local agencies. No specifics are available at this time to what the future bill may include or how much funding will be available for local agencies.

Community Development Block Grants (CDBG)

Some of the past grants to the City of Falls City have been CDBG Program funds, which are offered through the Federal Department of Housing and Urban Development. To receive CDBG funds, cities must compete for grants based upon a formula that includes factors such as rural/urban status, demographics, local funding match, and potential benefits to low-to-moderate income residents, including new job creation. CDBG funds can also be used for emerging public work needs.

Potential: In small rural communities this program has limited application but may be a source of street funds for roads serving new developments supporting job creation or multifamily housing. A CDBG grant was recently used to help fund street improvement to N. Main Street.

Federal Economic Development Administration (EDA)

The Federal Economic Development Administration provides annual grant funding on a competitive basis for public works improvements that directly generate or retain jobs in local communities. These funds can be used for local utilities and transportation facilities that serve new development sites.

Potential: EDA funds are difficult to obtain but could be considered for targeted improvements for local industry expansion. Funding requests for EDA grants should be coordinated with Polk County and the OECDD.

Existing Application: SPWF and IOF funds have been used in a number of cities for the construction of water, sewer, and limited street improvements.

Potential: These funds are limited to situations where it can be documented how a project will contribute to economic development and family-wage job creation.

Special Small City Allotment (SCA)

Description: SCA funding is available to incorporated cities with populations less than 5,000. This funding comes from state gas tax funds and provides grants up to \$25,000 to selected cities. Cities are asked by ODOT annually to apply for funding for projects they select on their local street system. Cities can apply only if previous SCA Grants are complete and paid for. ODOT regions evaluate project proposals from each city and rank each proposal.

Application: Region 2 is allocated several grants per year for small cities. Falls City has received several SCA Grants through ODOT in the past for pavement maintenance and sidewalk projects.

State Bicycle-Pedestrian Grants

Description: ODOT's Bicycle and Pedestrian Program administers two grant programs to assist in the development of walking and bicycling improvements: local grants and Small-Scale Urban Highway Pedestrian Improvement (SUPI) programs. For both these grants, cities that have adopted plans with identified projects will be in the best position. Cities and counties can apply for local grants for bicycle and pedestrian projects within the right-of-way of local streets. Local grants up to \$100,000 are shared 80% State and 20% local. Projects that consider the needs of children, elderly, disabled, and transit users are given special consideration.

There must be support for the project from local elected officials. Applications for the Local Grant program are mailed out to all Oregon jurisdictions every other year. In the SUPI process, cities and counties help ODOT identify sections of urban highways where improvements are needed. Examples of eligible projects include:

- completing short missing sections of sidewalks;
- ADA upgrades;
- crossing improvements (e.g., curb extensions, refuges, crosswalks); and,
- intersection improvements (e.g., islands and realignment).

SUPI projects are located on highways that have no modernization projects scheduled for the foreseeable future. Projects that have a local funding match are typically viewed the most favorably because this indicates strong local support. Projects on highways that cost more than \$100,000, require right-of-way, or have

environmental impacts need to be submitted to ODOT for inclusion in the STIP. Cities and counties can apply annually for bike path or sidewalk grants of projects they have selected. Grants for projects on local street systems have a match of 20 percent and projects next to state highways have a lower match requirement. Bicycle-pedestrian grants are generally below \$125,000 per project. Project evaluation and selection is made annually statewide by the Statewide Bicycle/Pedestrian Committee.

Application: Communities in Polk County have successfully received these grants for bicycle and sidewalk improvements.

ODOT Enhancement Program

Description: The Transportation Enhancement program provides federal highway funds for projects that strengthen the cultural, aesthetic, or environmental value of the transportation system. The funds are available for twelve “transportation enhancement activities,” which are categorized as:

- Pedestrian and Bicycle projects;
- Historic Preservation related to surface transportation;
- Landscaping and Scenic Beautification; and
- Environmental Mitigation.

Existing Application: The Enhancement Program funds special or additional activities not normally required on a highway or transportation project. So far, Oregon has funded more than 150 projects for a total of \$63 million.

Potential: The City could seek Enhancement Program funds for bicycle and sidewalk projects including the multi-use path along the railroad right-of-way.

State Parks Funds

Description: Recreational Trails Grants are national grants administered by the Oregon Parks and Recreation Department (OPRD) for recreational trail-related projects, such as hiking, running, bicycling, off-road motorcycling and all-terrain vehicle riding.

Existing Application: OPRD gives more than \$4 million annual to Oregon communities for outdoor recreation project, and has awarded more than \$40 million in grants across the state since 1999. Grants can be awarded to non-profits, cities, counties, and state and federal agencies.

Potential: Funding is primarily intended for recreational trail projects.

Local Funding Options

The following programs are used by cities in the funding of transportation improvements:

General Obligation Bonds (G.O. Bonds)

Description: Bonds are often sold by a municipal government to fund transportation (or other types) of improvements, and are repaid with property tax revenue generated by that local government. Under Measure 50, voters must approve G.O. Bond sales with at least a 50 percent voter turnout.

Existing Application: Cities all over the state use this method to finance the construction of transportation improvements. For smaller jurisdictions, the cost of issuing bonds vs. the amount that they can reasonably issue creates a problem. Underwriting costs can become a high percentage of the total cost for smaller issues. According to a representative of the League of Oregon Cities, the state is considering developing a “Bond Pool” for smaller jurisdictions. By pooling together several small bond issues, they will be able to achieve an economy of scale and lower costs.

Potential: Within the limitations outlined above, G.O. bonding can be a viable alternative for funding transportation improvements when focused on specific projects.

Serial Levy/Property Taxes within the Limits of Ballot Measure 50

Description: Local property tax revenue (city or county) could be used to fund transportation improvements through a serial bond levy.

Existing Application: Revenue from property taxes ends up in the local government general fund where it is used for a variety of uses. Precedents for the use of property taxes as a source of funding for transportation capital improvements can be found throughout the state. However, with the limitations resulting from Measure 50, use of property taxes for transportation capital improvements will continue to compete with other general government services under the three percent assessed value increase allowed by Measure 50 and the local tax limits of \$15 per \$1,000 of assessed value established under Measure 5. Under Measure 50, however, there is no limit on assessed value generated by new construction.

Potential: Because the potential for increased funding from property tax revenue is limited by Ballot Measures 5 and 50 and by competition from other users who draw funds from the general fund, it is not a practical source for financing major local street improvements but could finance a package of minor improvement projects.

Local Street Utility/User Fee

Description: This fee is based on the fact that streets are utilities used by citizens and businesses just like a public water or sewer system. Fees are typically assessed by usage (e.g., average number of vehicle trips per development type).

Existing Application: This fee is used in many Oregon cities through a monthly fee charged to local dwelling units and businesses. The formulas range from a flat rate per dwelling unit and per business (\$10/month and \$25/month, for example) to rates calculated for each property individually based on the Institute for Transportation Engineers Trip Generation Handbook. Statewide the average revenue generated by local jurisdictions with a Street Utility Fee is approximately \$26 per year per resident (not per dwelling unit). Typically the revenue generated by these fees are used for operations and maintenance of the street system but the ability to use these fees for capital projects, including pedestrian and bicycle projects should be explored.

Potential: In Falls City, a \$10.00 monthly fee charged to the estimated 373 households would generate approximately \$45,000 per year in revenue from residential uses. As households grow, revenues would also continue to grow.

Local Improvement District (LID)

Description: Under a local improvement district (LID), a street or other transportation improvement is built and the adjacent properties that benefit are assessed a fee to pay for the improvement.

Existing Application: LID programs have wide application for funding new or reconstructed streets, sidewalks, water/sewer or other public works projects. The LID method is used primarily for local or collector roads, though arterials have been built using LID funds in certain jurisdictions.

Potential: LIDs continue to offer a good mechanism for funding projects such as new sidewalks and street surface upgrades. An example of a good application for an LID may be for sidewalk projects on collector streets. In the developed areas of Falls City where there are no sidewalks in front of existing developed properties, the City may be able to fund the cost of sidewalks on collector streets to provide a connected pedestrian system for current and future residents.

For more information on how LIDs may be used to improve city streets, refer to the Falls City Street Improvement Plan completed in June 2010.

Urban Renewal District

Description: An Urban Renewal District is an area that is designated by a community as a “blighted area” to assist in revitalization. Funding for the revitalization is provided by urban renewal taxes, which are generated by the increase in total assessed values in the district from the time it was first established.

Existing Application: Urban Renewal Districts have been formed in over 50 cities in Oregon, generally focused on revitalizing downtowns.

Potential: Urban Renewal dollars can be used to fund infrastructure projects such as roadway, sidewalk, or transit improvements. Since funding relies on taxes from future increases in property value, the City may seek to create a District where such improvements will likely result in such an increase.

Developer Dedications of Right-of-Way and Local Street Improvements

Description: New local streets required to serve new development areas are provided at the developer's expense to the City in accordance with the tentative and final plan approvals granted by the City Council.

Existing Application: Current City ordinance requires local streets and utilities to be provided in accordance with the adopted Land Use Plan, and the zoning ordinance and subdivision ordinance. This includes dedication of street/utility right-of-way and construction of streets, pedestrian/bicycle facilities, and utilities to City design standards.

Potential: Private developer street dedications are an excellent means of funding new local street/utility extensions, and are most effective if guided by a future street plan. This funding mechanism can apply to all new local street extensions in Falls City within the 20-year planning period.

Systems Development Charges (SDCs)

Description: Another option is to exact fees from developers to pay for off-site or oversize improvements. Sometimes fee systems generate money that goes into a common fund to pay for system wide capital facilities.

Existing Application: The Falls City Charter currently prohibits the collection of SDCs. Due to the limited availability of funds to construct street improvements, and limitations on the amount of exactions the city can require through the development review process, the city may want to consider amending this charter provision in the future.

Potential: SDCs can only be used to address growth-related transportation needs. SDCs cannot be used to fund any existing transportation deficiencies.

Mid-Willamette Valley Regional Strategy Board's Rural Investment Fund (RIF)

Description: RIF funds are a flexible source of funding for locally determined economic and community development activities.

Existing Application: RIF funds usually require a 50 percent local match contribution and demonstrate the potential for job creation as a result of completing the project.

Potential: Use of funds ranges from engineering feasibility studies to preliminary cost estimates for infrastructure improvements to environmental assessments.

Local Improvement Districts (LID)

One option is formation of a local improvement district for areas in the City. The City or property owners can initiate a LID, subject to remonstrance (protests). This method is applied when work is confined to and benefits a specified area. The LID distributes the cost of a project among property owners according to the benefit the property receives.

Systems Development Charges (SDCs)

Another option is to exact fees from developers to pay for off-site or oversize improvements. Sometimes fee systems generate money that goes into a common fund to pay for system-wide capital facilities.

Urban Renewal Districts

Oregon Revised Statutes 457 allows Urban Renewal Districts to be formed in Oregon municipalities. Urban Renewal Districts can issue increment bonds to pay for improvements. These bonds use dedicated property tax increases resulting from increased valuations of property in the district to pay for the public improvements, and the property tax cap influences them.

Exactions (Conditions of Development)

System improvements may be required as a condition of development. The process requires the city to demonstrate how required improvements are necessary to accommodate the impact generated by the new development.

Other Potential Funding Sources

Some economic development programs also offer a source of funds. The Immediate Opportunity Fund Grant program managed by ODOT provides a maximum of \$500,000 for public roadwork associated with an economic development related project of regional significance plus the underlying project must create primary employment. Additionally, although lesser amounts will be considered, the grantee should provide an equal local match.

Another economic development related source of funds is the Oregon Economic and Community Development Department (OECDD) Special Public Works Fund. This fund provides grants and loans for the public work that supports private projects that result in permanent job creation or job retention. Loans are emphasized in this program and are

available up to \$11 million for a maximum of 25 years, unless the project's life is shorter. The maximum grant is for \$500,000, but may not exceed 85 percent of the project cost.

There is also the Mid-Willamette Valley Regional Strategy Board's Rural Investment Fund (RIF). The RIF is a flexible source of funding for locally determined economic and community development activities. Use of funds ranges from engineering feasibility studies to preliminary cost estimates for infrastructure improvements to environmental assessments.

TRANSPORTATION GOALS, POLICIES, AND IMPLEMENTATION

GOALS:

1) Provide a circulation system which is safe and efficient for vehicle users, pedestrians and bicyclists.

2) Establish a street system which is consistent with orderly growth, maximizes quality of life, and minimizes conflicts with adjacent land uses.

3) Encourage energy conservation through efficient transportation planning.

4) Consider methods to create a more equitable and cost effective system of financing street development and improvement.

5) Encourage the provision of street crossing improvements to enhance the mobility of citizens who are elderly or experience physical disabilities.

6) Provide a street system which is consistent with all applicable roadway design standards.

POLICIES:

1) All new land divisions and significant developments are to provide fully improved streets and other public improvements.

2) New building construction in areas already provided with street access shall provide street improvements, where necessary, and shall install curbs and sidewalks, where lacking, along its frontage.

3) New construction shall provide bicycle and pedestrian facilities that provide safe and convenient access within, to, and from new land divisions, planned developments, shopping and industrial areas to nearby residential areas, and neighborhood activity centers, such as schools, parks

and shopping.

4) Assure that all structures fronting arterial and collector streets are set back the required minimum distance from the established right-of-way.

5) Traffic movement on streets shall be facilitated by controlling access points wherever possible. Access control shall include restrictions on the number and location of individual encroachments and street intersections.

6) The City shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with county and state Transportation System Plans (TSPs).

7) The major street network should function so that livability of neighborhoods is preserved.

8) Promote new street development standards to encourage access to, and development of existing odd shaped and land-locked parcels.

9) Street design should consider the need for landscaping and noise reduction.

10) Give priority to street improvements that are necessary to achieve safety, lower maintenance costs and increase efficiency.

11) The City should seek cooperation with government agencies, private developers and property owners to provide an equitable and cost effective system of financing street development and improvement.

12) The City shall seek available revenue sources and funding mechanisms to finance identified transportation system needs.

13) Whenever possible, existing streets shall be extended to serve urban and urbanizable areas.

14) The City will require, when technically feasible, that streets within a proposed development connect to existing streets at more than one point.

15) The City shall designate future street locations and

extensions of existing streets on the Future Street Network Comprehensive Plan Map and shall use this Map to help guide the design of future development.

16) In those areas where the City has designated a future street location, the City will ensure the preservation of right-of-way by requiring that all structures and other permanent improvements be located outside the proposed street right-of-way by maintaining the applicable setback standards.

17) The City will consider vacating unused right-of-way based upon the following factors:

a. The street vacation is consistent with the City's transportation goals and policies.

b. The right-of-way is not identified as a planned future street on the City's Future Street Network Plan.

c. The right-of-way is not needed for existing or future private or public utility, which cannot be reasonably accommodated through the creation of utility easements.

d. The proposed vacation would not be detrimental to the public health, safety and welfare.

IMPLEMENTATION:

- 1) Identify streets, curbs and sidewalks, bikeways and pedestrian ways that need repair/construction. Prioritize their improvement into a capital improvement program.
- 2) Consider a reduction of rights-of-way and paving width.
- 3) Develop access control standards for Designate arterial and collector streets within the planning area to assure that adequate spacing and site distance between driveways and street intersections ~~rights-of-way and building setbacks~~ are established.
- 4) Coordinate with Polk County the control of access, alignment of intersecting streets and off-set of streets along the City's major streets that fall under the County's jurisdiction.

Proposed Amendments to the Falls City Zoning and Development Ordinance

Proposed language is shown in **bold underline**. Language proposed for deletion is shown ~~struck through~~.

2.201 YARD AND LOT STANDARDS

2.201.05 VISION CLEARANCE

- C. A vision clearance area shall consist of a triangular area, two sides of which are right-of-way lines or a right-of-way line and access easement line (see attached diagram).

Where the lot lines have rounded corners, the right-of-way lines shall be extended in a straight line to a point of intersection and so measured. The third side of the triangle shall be a line connecting the non-intersecting ends of the other two lines. The distance used to establish the vision-clearance triangle shall be as follows:

1. ~~In a residential zone, 30 feet or, at intersections including an alley, 10 feet.~~
2. ~~In all other zones, where front and side yards are required, the minimum distance shall be 15 feet, or at intersections including an alley, 10 feet.~~

CLEAR VISION AREA MEASUREMENTS	
Type of Intersection	Measurement Along Each Lot Line or Drive Edge'
Controlled Intersection (Stop sign/signal)	20 feet
Uncontrolled Intersection (60' r/w)	30 feet
Uncontrolled Intersection (<60' r/w)	40 feet
Commercial / Industrial Driveways	20 feet
Common Use Residential Driveways & Alleys	20 feet
Single Residential Driveways	10 feet
'At the intersection of different classification streets, the measurement shall apply to the measurement along the right-of-way line as specified for each street classification.	

2.207 DEVELOPMENT STANDARDS FOR PARTITIONS AND SUBDIVISIONS

~~2.207.01~~ — ~~STREETS~~

~~A. — General Design Requirements: The location, width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. The arrangement of streets in a subdivision or major partition shall either:~~

- ~~1. — Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or~~
- ~~2. — Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical or undesirable.~~

~~B. — Minimum Right of Way and Pavement Widths: The width of rights of way and pavement for proposed streets shall conform to the following minimum standards:~~

<u>TYPE OF STREET</u>	<u>MINIMUM RIGHT-OF-WAY</u>	<u>MINIMUM PAVEMENT</u>
Major Arterials	60	40
Collector Streets	60	40
Minor Streets	50	32
Cul-de-Sacs (greater than 200 feet in length)	50	30
Cul-de-Sacs (less than 200 feet in length)	45	30
Radius for cul-de-sac turnaround	45	40

- ~~1. — Right of way widths shown are exclusive of side slope easements, which may be required in addition for cuts or fills in steep terrain.~~
- ~~2. — Exact width standards will be defined in improvement specifications adopted by the City.~~
- ~~3. — The minimum roadway width may be modified by the action of the Planning Commission, taking into consideration the unique characteristics of the land, to include geography, topography, and its relation to land developments already present in the area.~~

- ~~C. — Reserve strips: Reserve strips, or street plugs, controlling access to streets will not be approved unless accessory for the protection of the public welfare or of substantial property rights, and, in these cases, they may be required. The control and disposal of the land comprising such strips shall be placed within the jurisdiction of the Planning Commission under conditions approved by them.~~
- ~~D. — Alignment: So far as practical, streets, other than minor streets, shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.~~
- ~~E. — Future Extension of Streets: Where necessary to give access to, or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision; and the resulting dead-end streets may be approved without a permanent turn-around. Reserve strips and street plugs may be required to preserve the objectives of street extensions.~~
- ~~F. — Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical. Where topography requires, a lesser angle may be approved but in no case shall the acute angle be less than 60 degrees unless there is a special intersection design. The intersection of an arterial or collector street with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections, which include an arterial street, shall have a minimum corner radius sufficient to allow for a roadway radius of 20 feet and maintain a uniform width between the roadway and the right-of-way line.~~
- ~~G. — Existing Streets: Whenever existing streets adjacent to, or within, a tract are of inadequate width, additional right-of-way and paving shall be provided, to meet the standards of this Section, at the time of subdivision.~~
- ~~H. — Half Streets: Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision, when in conformity with the other requirements of this Ordinance, and when the Planning Commission finds it will be practical to require the dedication of the other half of the street when the adjoining property is subdivided. Whenever a half street is adjacent to a tract to be subdivided, the other half of the street shall be platted within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.~~
- ~~I. — Cul de sacs: A cul de sac shall be as short as possible, and shall have a maximum length of 800 feet. A cul de sac shall terminate with a turn-around, as required by this Section.~~

- ~~J. — Grades and Curves: Grades shall not exceed six (6) percent on arterials, 10 percent on collector streets, or 12 percent on any other street, unless topography mandates a steeper grade. In no instance shall the grade of any street exceed 15 percent. Centerline radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable lots, the Planning Commission may accept sharper curves.~~
- ~~K. — Streets Adjacent to Railroad Right of Way: Wherever the proposed subdivision contains, or is adjacent to, a railroad right of way, provision may be required for a street approximately parallel to, and on each side of, such right of way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation, and to provide sufficient depth to allow screen planting along the railroad right of way.~~
- ~~L. — Frontage Roads/Streets: Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission may require frontage streets, reverse frontage lots with suitable depth, screen plantings contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.~~
- ~~M. — Alleys: Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off street parking and loading facilities are approved by the Planning Commission.~~

2.207.012 BLOCKS

- A. General: The length, width, and shape of blocks shall take into account the need for adequate lot size and street width, and shall recognize the limitations of the topography.
- B. Size: No block shall be more than 1,000 feet in length between corner lot lines unless it is adjacent to an arterial street, or unless the topography or the adjoining streets justifies an exception. The recommended minimum length of blocks along an arterial street is 1,800 feet.

2.207.023 EASEMENTS

- A. Utility Lines: Easements for the City's wastewater system lines, water mains, electric lines or other public utilities shall be dedicated whenever necessary. The easements shall be at least 10 feet wide and shall be centered on lot lines, whenever possible. Utility pole tieback easements may be reduced to six (6) feet in width.

- B. Water Courses: If a subdivision is traversed by water courses such as a drainageway, channel, or stream, there shall be provided a storm sewer easement or drainage easement conforming, substantially, with the lines of the water course, and adequate for the purpose, unless the water course is diverted, channeled or piped in accordance with plans approved by the City Engineer. Parkways parallel to major watercourses may be required.
- C. Pedestrian Ways: When desirable for public convenience or safety, pedestrian ways, not less than 10 feet in width may be required to connect to cul-de-sacs or to pass through unusually long or oddly shaped blocks.
- D. Easements of Way: An easement of way providing access to property, and which is created to allow the partitioning of land, may be approved by the Planning Commission subject to the following conditions:
 - 1. The proposed easement is the only reasonable method by which the rear portion of an unusually deep parcel, or an unusually configured parcel, which is large enough to be divided into two or three lots, may be provided access.
 - 2. An easement of way shall have a minimum width of 25 feet and shall be improved with an asphalt or concrete surface a minimum of 12 feet in width, if used to access one lot, or a minimum of 20 feet in width if used to access two lots, **unless a greater width is required by the Local Fire Official.**
 - 3. An easement of way shall not provide access to more than two (2) parcels.
 - 4. The Planning Commission shall require the applicant to provide for the maintenance of said access; and to file an easement for said access, which includes the right to passage, and for the installation of utility lines. Such requirements shall be submitted to and approved by the City Attorney.

2.207.034 LOTS

- A. Size and Shape: Lot size, width, shape and orientation shall be appropriate for the location of the subdivision and for the type of use contemplated. All lots in a subdivision shall be buildable. Lot dimensions shall conform to the zoning requirements of the area. The depth of lots shall not ordinarily exceed two and one half times the average lot width.
- B. Access: Each lot shall abut upon a street other than an alley for a width of at least 25 feet, except those lots approved and created by authority of the Planning Commission subject to Subsection 2.207.023 (D).
- C. Through Lots: Through lots shall be avoided except where they are essential to provide, separation of residential development from major traffic arterials or adjacent nonresidential development, or to overcome specific disadvantages of

topography and orientation. A planting screen easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of lots abutting such a traffic arterial or other incompatible use.

- D. Lot Side Lines: The side lot lines of lots, so far as practical, shall run at right angles to the street upon which the lots face.

2.207.045 LOT GRADING

Lot grading shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

- A. Cut slopes shall not exceed 1½ feet horizontally to one foot vertically.
- B. Fill slopes shall not exceed two (2) feet horizontally to one foot vertically.
- C. The character of soil for fill and the character of lots made useable by fill shall be suitable for the purpose intended.
- D. The minimum elevation at which a structure may be erected, taking into consideration the topography of the lot, the surrounding area, drainage patterns, and other pertinent data, shall be established by the Building Inspector.
- E. The City Engineer shall determine whether a storm drainage system is necessary to control, manage and dispose of water lying on or running over a subdivision. In addition, the subdivider shall be required to meet other standards and conditions imposed by State laws and City ordinances.

2.207.056 BUILDING LINES

If special building setback lines are to be established in the subdivision, they shall be shown on the subdivision plat or included in the deed restrictions.

2.207.067 LARGE LOT SUBDIVISION

In subdividing tracts into large lots which at some future time are likely to be re-subdivided, the Planning Commission may require that the blocks be of such size and shape, be so divided into lots, and contain such building site restrictions, as will provide for the future re-subdivision of the property.

2.207.078 LEFTOVER LAND

Islands, strips, or parcels of property unsuited for subdividing and not accepted by the City for appropriate use, shall not be left undivided, but shall be identified as required in this Section.

2.207.089 OPEN SPACE

Subdivisions and partitions of land, which include lands identified on the Significant Resources Map of the Comprehensive Plan as Open Space Resources shall provide for the preservation of the identified resource area through one of the following methods:

- A. **Public Dedication:** Open space resources which are determined by the Planning Commission to be suitably located to serve as public park lands may be dedicated to the City for such use.
- B. **Common Area Dedication:** Open space resources may be included in a tract of land to be owned in common by the owners of lots within the development. A nonprofit homeowners association shall be created, in a manner acceptable to the City Attorney, for the ownership and maintenance of such tracts. The tract shall be preserved in perpetuity as open space using conservation easements, deed restrictions, or by appropriate notation on the final plat.
- C. **Conservation Easements:** If identified open space resources are to be included in lot areas, conservation easements shall be required to prohibit development within the open space area and to protect existing scenic vegetation and/or natural features.

2.207.0910 PARKS & RECREATION FACILITIES FOR RESIDENTIAL SUBDIVISIONS

- A. **Areas Required:** Except as modified in 2.207.0910(B) below, an area of land, the size of which shall be determined by the Planning Commission, but not to exceed one acre for each 100 persons, or an area equal to a fractional proportion of 100 persons to one acre, shall be set aside and dedicated by the subdivider to the public for parks and recreation purposes. The potential population shall be computed at the rate of 3.25 persons for each potential unit in a single-family or two-family dwelling, and 2.75 persons for each potential multiple-family unit. Such area or parcel in either case shall be approved by the Planning Commission as being suitable and adaptable for park and recreation use and in compliance with the Comprehensive Plan.
- B. **Payment in Lieu of Land:** If the Planning Commission determines that there is no need for open space or park property, or that there is no suitable park or recreation area or site in the proposed subdivision, then the subdivider shall, in lieu of setting aside land, pay into a park trust a sum of money equal to the market value of the land that would have been required in 2.207.0910(A), above.
 - 1. Market value shall be established by a professional land appraiser who is a candidate or member of the American Institute of Real Estate Appraisers, or who has been certified by the State of Oregon as a certified appraiser. A date, which is within 60 days of the submission of the tentative plan, shall be used for the purposes of fixing the value (except that appraised

value shall always be determined subsequent to the parcel's annexation to the City). The City shall be responsible for securing the services of the professional appraiser and submitting those appraisal figures for the Planning Commission's consideration.

2. The sum of money established by this procedure shall be paid to the City prior to the signing of the final plat by the Planning Commission chairman.
- C. Expenditure of Funds: Funds contributed in lieu of park land shall be credited to a park acquisition trust fund and shall be deposited with the City Treasurer for the purpose of acquiring or developing suitable park lands. Such funds may be expended only on order of the City Council for the purpose of acquiring or developing land for park and recreational uses, and then only for such lands as the Commission and Council shall approve as suitable and adaptable for such purposes.

2.211 STREET STANDARDS

2.211.01 PURPOSE

- A. To provide for safe, efficient, and convenient vehicular movement in the city.**
- B. To provide adequate access to all proposed and anticipated developments in the city.**
- C. To provide adequate area in all public rights-of-way for sidewalks, sanitary sewers, storm sewers, water lines, natural gas lines, power lines and other utilities commonly and appropriately placed in such rights-of-ways.**

2.211.02 SCOPE

The provisions of this chapter shall be applicable to:

- A. The creation, dedication, or construction of all new public or private streets, pedestrian facilities, and bikeways in all subdivisions, partitions, or other developments in the city.**
- B. The extension or widening of existing public or private street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.**
- C. The construction or modification of any utilities, bikeways, or sidewalks in public rights-of-way or private street easements.**
- D. The planting of street trees or other landscape materials in public rights-of-way.**

2.211.03 GENERAL PROVISIONS

The following provisions shall apply to the dedication, construction, improvement, or other development of all public streets in the city, and are intended to provide a general overview of typical minimum design standards. All streets shall be designed in conformance with the specific requirements of the most recently adopted Street Design and Construction Standards for the City of Falls City.

The standard sections contained in the Street Design and Construction Standards for the City of Falls City are minimum requirements only and shall not be construed as prohibiting the city from requiring thicker sections or engineer designed pavement sections in lieu of standard sections where conditions warrant.

- A. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. The arrangement of streets in a development shall either:**
- 1. Provide for the continuation or appropriate projection of existing principal streets in surrounding areas; or**
 - 2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical or undesirable.**
- B. Reserve strips: Reserve strips, or street plugs, controlling access to streets will not be approved unless accessory for the protection of the public welfare or of substantial property rights, and, in these cases, they may be required. The control and disposal of the land comprising such strips shall be placed within the jurisdiction of the Planning Commission under conditions approved by them.**
- C. Alignment: So far as practical, streets, other than minor streets, shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.**
- D. Future Extension of Streets: Where necessary to give access to, or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision; and the resulting dead-end streets may be approved without a permanent turn-around. Reserve strips and street plugs may be required to preserve the objectives of street extensions.**
- E. Intersection Angles: Streets shall be laid out to intersect at angles as near to right angles as practical. Where topography requires, a lesser angle may be approved but in no case shall the acute angle be less than 75 degrees unless there is a special intersection design. The intersection of an arterial or collector street with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Intersections, which include an arterial street, shall have a minimum corner radius sufficient to allow for a roadway radius of 28 feet and maintain a uniform width between the roadway and the right-of-way line.**
- F. Existing Streets:**

1. Three-quarter improvements to all existing streets adjacent to, within or necessary to serve the property, shall be required at the time of partitioning and subdivision, unless the applicant demonstrates to the satisfaction of the City Engineer that the condition and sections of the existing streets meet city standards and are in satisfactory condition to handle projected traffic loads.

2. For infill development that does not include partitioning or subdivision, a three-quarter street improvement shall be required if the City Engineer determines that the existing streets are not in condition to handle projected traffic loads.

3. The city shall require the applicant to record an approved improvement deferral agreement or non-remonstrance agreement in lieu of street improvements, where the following criteria are met:

a. The existing roadway condition and sections are adequate to handle existing and projected traffic loads; and

b. Existing public utilities (water, sewer and storm sewer) located within the existing roadway are adequate, or can be improved without damaging the existing roadway surface.

G. New Streets: Where new streets are created, full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements on boundary streets when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed. The city may allow three-quarter street improvements if all of the following criteria are met:

1. The adjoining land abutting the opposite side of the street is undeveloped; and

2. Storm water drainage is provide for on the non-curbed side of three-quarter street

One-foot wide reserve strips and street plugs may be required to preserve the objectives of three-quarter streets.

H. Cul-de-sacs: A cul-de-sac shall be as short as possible, and shall have a maximum length of 400 feet. A cul-de-sac shall terminate with a turn-around, as required by this Section.

I. Street Names: Street names and numbers shall conform to the established pattern in the city and shall be subject to the approval of the city. Street

names shall be required for all new publicly dedicated streets and private streets.

J. Grades and Curves: Grades shall not exceed six (6) percent on arterials, and ten (10) percent on any other street, unless topography mandates a steeper grade. Centerline radii of curves shall not be less than 300 feet on major arterials, 200 feet on secondary arterials, or 100 feet on other streets. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable lots, the Planning Commission may accept sharper curves.

K. Marginal Access Streets: If a development abuts or contains an existing or proposed arterial street or railroad right-of-way, the city may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

L. Alleys: Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the Planning Commission.

2.211.04 MINIMUM RIGHT-OF-WAY AND PAVEMENT WIDTHS

The width of rights-of-way and pavement for proposed streets shall conform to the following minimum standards:

<u>TYPE OF STREET</u>	<u>MINIMUM RIGHT-OF-WAY</u>	<u>MINIMUM PAVEMENT</u>
<u>Major Arterials</u>	<u>60</u>	<u>40</u>
<u>Collector Streets</u>	<u>60</u>	<u>40</u>
<u>Local Streets</u>	<u>50</u>	<u>32</u>
<u>Cul-de-Sacs (greater than 200 feet in length)</u>	<u>50</u>	<u>30</u>
<u>Cul-de-Sacs (less than 200 feet in length)</u>	<u>45</u>	<u>30</u>
<u>Radius for cul-de-sac turnaround</u>	<u>51</u>	<u>48</u>
<u>Alleys</u>	<u>20</u>	<u>20</u>

A. Right-of-way widths shown are exclusive of side slope easements, which may be required in addition for cuts or fills in steep terrain.

B. Exact width standards will be defined in improvement specifications adopted by the City.

C. The minimum roadway width may be modified by the action of the Planning Commission, taking into consideration the unique characteristics of the land, to include geography, topography, and its relation to land developments already present in the area.

2.211.05 PRIVATE STREETS

A. Streets and other rights-of-way serving a planned unit development that are not dedicated for public use shall comply with the following:

1. Private streets shall only be allowed when the city finds that public street access is:

a. Infeasible due to parcel shape, terrain, or location of existing structure; and

b. Not necessary to provide for the future development of adjoining property.

2. Private streets shall have a minimum easement width of twenty-five (25) feet and a minimum paved or curbed width of eighteen (18) feet, unless a greater width is required by the Local Fire Official.

3. Unless otherwise specified in the Street Design and Construction Standards for the City of Falls City, all private streets serving more than two (2) dwelling units shall be constructed to the same pavement section specifications required for public streets. Provision for the maintenance of the street shall be provided in the form of a maintenance agreement, homeowners association, or other instrument acceptable to the city attorney.

4. A turn-around shall be required for any private street which has only one (1) outlet and which is in excess of one-hundred and fifty (150) feet long or which serves more than two (2) residences. Turn-arounds for private streets shall be either a circular turn-around with a minimum paved radius of thirty-five (35) feet or a "tee" or "hammerhead" turn-around with a minimum paved dimension across the "tee" of seventy (70) feet and a twenty (20) foot width with appropriate radius at the corners.

B. Any grant of a private street or land functioning as an easement shall not be accepted by the city and dedicated for public use except upon approval of the council and upon meeting the specifications of Sections 2.111.03 and 2.111.04.

3.209.03 AREA OF APPLICATION

A partition is required for any land division, which creates two (2) or three (3) parcels in a calendar year. The parcels must satisfy the following requirements:

- A. Each parcel shall have a minimum of 20 feet of frontage on a Federal, State, County, City or public roadway except when the Planning Commission grants access via an easement of way as provided in Subsection 2.207.032(D).
- B. Each parcel shall satisfy the dimensional standards of the applicable zoning district, unless a variance from these standards is approved.

APPENDIX E: Proposed Street Design and Construction Standards

FALLS CITY PUBLIC WORKS DESIGN STANDARDS

DIVISION 2 - STREETS

(Replaces the Mt. Angel PWDS Div 2-Streets as adopted by the City)

¹ Denotes the current revision of City of Falls City or Mt. Angel standards as adopted by the City. Confirmation with the City regarding applicable standards is recommended prior to design.)

2.1 PURPOSE

- A. In addition to the purposes outlined under Division 1 of the Falls City Design Standards¹, as adopted by the City of Falls City, the purpose of these Standards is to:
1. provide design guidance criteria to the private sector for the design of public and private streets within the City;
 2. establish standard right-of-way widths and improvement requirements for the appropriate street classifications;
 3. require the use of design and materials to provide streets with a minimum practical design life of not less than 30 years.
 4. ensure the development of a street system which will:
 - a. be of adequate design to handle the traffic needs for the City of Falls City;
 - b. be designed in a manner to allow economical future maintenance;

Alternate materials and methods will be considered for approval on the basis of these objectives.

- B. These Standards cannot provide for all situations. They are intended to assist but not to substitute for competent work by professional design engineers.

2.2 APPLICABILITY

- A. These Standards shall govern all construction and upgrading of all public and private streets in the City of Falls City and applicable work within its service areas.
- B. All properties shall be provided with access to a public or private street prior to or concurrently with the development of the property. This shall generally be interpreted to mean that permanent streets shall be provided for existing lots of record at the time development occurs, and for new legal lots of record created by partitioning or subdivision of land at the time of partitioning or subdivision.

2.3 SPECIAL ITEMS

- A. The design of the following are considered special items and are not covered in detail in these Standards:
1. Commercial / Industrial entrances
 2. Signalized Intersections
 3. Bridges or Culverted Stream Crossings
- B. Review and approval of the above special items by the City Engineer shall be required. When requested by the City, full design calculations shall be submitted for review prior to approval.

2.4 APPROVAL OF ALTERNATE MATERIALS AND METHODS

- A. Any alternate material or method not explicitly approved herein will be considered for approval on the basis of the objectives set forth in Paragraph 2.1, Purpose. Persons seeking such approval shall make application in writing to the City Engineer. Approval of any major deviation from these Standards shall be in written form. Approval of minor matters will be made in writing, if requested.
- B. Any alternate must meet or exceed the minimum requirements set forth in these Design Standards.
- C. The written application is to include, but is not limited to, the manufacturer's specifications and testing results, design drawings, calculations and other pertinent information.
- D. Any deviations or special problems shall be reviewed on a case-by-case basis and approved by the City Engineer. When requested by the City, full design calculations shall be submitted for review with the request for approval.

2.5 CONSTRUCTION DRAWINGS

- A. Construction drawings shall conform to applicable requirements of Division 1 of the Falls City Design Standards¹ as adopted by the City of Falls City. *In Division 1, replace "City of Falls City" and "Polk County" for reference to Mt. Angel and Marion County respectively.* Contact the City Engineer for clarification and guidance regarding interaction between standards.
- B. Detail drawings shall be included on the construction drawings for all street system components including typical sections, curbs, sidewalks, handicap ramps, drainage facilities, etc.

2.6 STANDARD DETAILS

The Falls City Standard Details¹ included in Appendix A are supplemental to the text of these design standards and show the City's minimum requirements for the construction of standard structures and facilities. In the case of conflicts between the text of these design standards and the standard details, the more stringent as determined by the City Engineer shall apply.

As required by Division 1 of the Falls City Design Standards¹, all applicable standard details shall be included on the construction drawings.

2.7 EXISTING STREET CLASSIFICATIONS

The Falls City Comprehensive Plan provides an "Inventory and Evaluation of the Street Network". The PWDS is not intended to reproduce the Comprehensive Plan; however the following describes the functional classifications of the street system:

- A. Arterial Streets - The City has designated the following streets as arterials within the city limits:
 - 1. N. Main Street,
 - 2. Mitchell Street, and
 - 3. Bridget Street.
- B. Collector Streets - The City has designated the following streets as collectors within the city limits:
 - 1. S. Main Street,
 - 2. Ellis Street,
 - 3. Lombard Street,
 - 4. Clark Street,
 - 5. Parry Street,
 - 6. Chamberlain Road, and
 - 7. Sheldon Avenue.
- C. Local Streets - Local streets comprise the remainder of the City's street system. These streets provide direct access to the adjoining land uses and efficient connectivity to the City's collector streets.

2.8 OTHER JURISDICTIONS

Other than the City, Polk County has jurisdiction over some of the streets or roads within the City Limits. In all cases, the City design standards shall be considered to be the minimum allowable standards for any streets within the City Limits. Polk County may have additional or more stringent requirements. Approval from Polk County will be required prior to construction activities on any street or road under their jurisdiction.

2.9 DEFINITIONS AND TERMS

- A. In addition to the definitions contained in Division 1 of the Falls City Standards¹, the following definitions may apply particularly to street systems. Unless otherwise defined in these Design Standards, the following definitions and abbreviations shall apply whenever used. Other definitions as outlined in the Oregon Department of Transportation (ODOT) Oregon Standard Specifications for Construction shall also apply.
 - 1. Abbreviations: Acceptable abbreviations for pavement materials are as follows:
 - a) AC - Asphalt Cement
 - b) PCC - Portland Cement Concrete
 - 2. Alley: A thoroughfare not more than 20 feet and not less than 10 feet in width, which has been dedicated or deeded to the public for public use providing a secondary means of access to abutting property.
 - 3. Arterial Street: Intra- and Inter-community roadways connecting community centers with major facilities. In general, arterials serve both through traffic and local traffic. Access should be partially controlled with infrequent access to abutting properties.
 - 4. Bike Lanes: A designated travel-way for bicyclists that is established within the roadway directly adjacent to the outside vehicular lane or on the shoulder.

5. **Bike Path**: A designated travel way for bicyclist which is completely separated from the vehicular travel lanes and is within independent right-of-ways.
6. **Bike Route**: A designated travel-way for bicyclists which can be shared with vehicular traffic. The roadway is designated with signs for bicycling (no pavement markings for the bike route or delineation of parking spaces is used).
7. **Clear Vision Area**: A triangular area on a lot at the intersection of two streets or a street and a railroad, the sides of which are lines measured from the corner intersection of the right-of-way lines. The third side of the triangle is a line across the corner of the lot joining the ends of the other two sides, where the lines at the intersections have rounded corners, the right-of-way lines will be extended in a straight line to the point of intersection.
8. **Collector Street**: A centrally located street for moving traffic from arterials to local streets.
9. **Cul-de-sac (dead-end)**: A short street with one end open to traffic and the other terminated by a vehicle turn-around.
10. **Downstream Intersection**: The nearest intersection from a driveway located in the direction of traffic flow of the nearest lane of the abutting street.
11. **Expansion Joint**: A joint to control cracking in the pavement structure and filled with preformed expansion joint filler.
12. **Frontage Road**: A service road parallel and adjacent to an arterial street, providing access to abutting properties, but protected from through traffic.
13. **Grade**: The degree of inclination of a road or slope.
14. **Half-Street**: A portion of the width of a street, usually along the edge of a subdivision, where the remaining portion of the street could be provided during the development of adjacent property.
15. **Intersection**: The meeting point of two streets having at least three legs.
16. **Local Street**: Serves primarily to provide direct access to abutting land and offers the lowest level of traffic mobility. Through traffic movement is deliberately discouraged.
17. **Longitudinal Joint**: A joint which follows a course approximately parallel to the centerline of the roadway.
18. **Minor Streets**: See Local Street.
19. **Natural Grade**: The grade with the land in an undisturbed state.
20. **One-Way Driveway**: A driveway of either ingress or egress, but not both.
21. **Parking Space**: A designated space in a parking area for the parking of one motor vehicle.
22. **Sidewalk**: A right-of-way deeded, dedicated, and designated for the use of non-motorized vehicles and pedestrians.
23. **Streets or Roads**: Any public highway, road, street, avenue, alley, easement or right-of-way used or to be used for vehicle movement. Full street improvements include curb and sidewalk on both sides, storm drainage and fully improved in accordance with these standards.
24. **Structures**: Those structures designated on the standard plans as catch basins, manholes, etc. Detailed drawings of structures or devices commonly used in City work and mentioned in these standards are included in the standard construction specifications.
25. **Superelevation**: The vertical distance between the heights of the inner and outer

edges of pavement on horizontal curves.

26. Three-Quarter (3/4) Street: A ± 75 percent portion of the ultimate width of a street, but not less than 25 1/2 feet from face of curb to edge of pavement, usually along the edge of a development, where the remaining portion of the street shall be provided when adjacent property is developed. 3/4 street improvements include curb, piped storm drainage and sidewalk on one side, and drainage facilities on the non-curbed side of the street.
27. Transition: The taper between portions of a street with different pavement widths.
28. Transverse Joint: A joint which follows a course approximately perpendicular to the centerline of the roadway.
29. Travelled Way: That portion of the roadway for the movement of vehicles, exclusive of shoulder and auxiliary lanes.
30. Turnaround Area: A paved area of sufficient size and configuration that emergency vehicles may maneuver around to head in the opposite direction without having to move in reverse more than once.
31. Turnpike Street: Any public street, road or right-of-way which has been paved for vehicular movement and does not have curbs, sidewalks or piped storm drainage facilities.
32. Two Way Driveway: A driveway functioning as both an exit and entrance.
33. Upstream Intersection: The nearest intersection from a driveway located in the direction opposite the traffic flow of the nearest lane of the abutting street.

2.10 MATERIALS

A. General

Unless otherwise approved by the City Engineer, materials shall conform to the minimum requirements outlined herein and as shown on the Standard Details. This listing is not intended to be complete nor designed to replace the City's Public Works Construction Standards (PWS).

In the case of conflicts between the provisions of these design standards and the PWS, the more stringent as determined by the City Engineer or his representative shall apply. Acceptable materials shall be as outlined in these Design Standards.

It is not intended that materials listed herein are to be considered acceptable for all applications. The design engineer shall determine the materials suitable for the project to the satisfaction of the City Engineer.

B. AC Pavement

AC _____ pavement shall conform to Section 00744 (Minor Hot Mixed Asphalt Concrete [MHMAC] Pavement) and Section 00745 (Hot Mixed Asphalt Concrete [HMAC] Pavement) Oregon Standard Specifications for Construction, standard duty mix, Class C or Class B as specified.

C. Granular Base Rock

Granular base rock shall conform to Section 00640 (Aggregate Base & Shoulders) and Section 00641 (Aggregate Subbase, Base and Shoulders) Oregon Standard Specifications for Construction. Typical gradation shall be as follows:

Base Rock: 1-1/2"-0
 Leveling Rock: 3/4"-0
 Alternate single size 1"-0 aggregate as approved by the Engineer.

D. Concrete (Cast-in-Place)

All concrete shall conform to Section 00440, (Commercial Grade Concrete) Oregon Standard Specifications for Construction

E. Street Lights

Unless otherwise approved by the City, street light poles and arms shall be fiberglass poles designed to produce a 25-foot mounting height, shall be grey or brown in color, have a natural finish, and be of the direct burial type.

Unless otherwise approved by the City Engineer, all luminaries shall be Cobra head drop lens type using a 100 watt high pressure sodium light source with an acrylic lens and photoelectric control relay with a 6 foot mounting arm. The fixture shall produce a medium distribution, semi-cutoff, Type II lighting pattern.

All street lighting materials, including wire and installation procedures shall meet current requirements for maintenance by the local electric utility company.

2.11 IMPROVEMENT STANDARDS BY STREET CLASSIFICATION

A. The table below summarizes the improvement standards for each road classification.

IMPROVEMENT REQUIREMENTS		
Street Classification	Min. Right-of-Way Width	Curb to Curb Width
Arterial	60'	40'
Collector	60'	40'
Local (Residential)	50'	32'
Residential Cul-de-sac (Length > 200 ft)	50'	30'
Residential Cul-de-sac (Length < 200 ft)	45'	30'
Cul-de-sac Bulb (Residential)	51' radius	48' radius
Alleys	20	20

B. The number of travel lanes for arterial and major collector roads shall be determined by the volume of traffic. The City may require additional turning lanes based on situational analysis or a traffic engineer's report evaluating the need for additional turning lanes.

C. Additional pavement and right-of-way width may be required to accommodate turning lanes, parking, landscape/parking strips and bike lanes.

2.12 STREET DESIGN AND MINIMUM SECTIONS

- A. The street design shall result in streets that:
 1. are of adequate design to handle the traffic needs of the City,
 2. are designed in a manner to allow economical future maintenance, and,
 3. provide a minimum practical pavement design life of 30 years for all streets.

- B. The minimum pavement section for public streets shall conform to the following table. These pavement sections are based on sub-grade compacted to 95% of AASHTO T-180 (Modified Proctor).

MINIMUM PAVEMENT SECTIONS		
Street Classification	AC Pavement Thickness (inch)	Base rock Thickness (inch)
Arterial	4	15
Collector	4	15
Local (Local)	3	10
Cul-de-sac (Residential)	3	9
Alley	3	9

- C. The City reserves the right to require an engineer designed pavement section in lieu of the standard section. This will typically be required for streets for which the City Engineer has reason to suspect unsuitable soil conditions, high percentage of trucks, where overlays are proposed, or any other conditions that may significantly affect the pavement structure design.

Where required by the City, the design of overlays shall include non-destructive falling weight deflectometer tests or other tests approved by the City Engineer and the preparation of an engineering analysis of street improvements required for the design life required with all anticipated traffic, including truck traffic.

- D. Unless otherwise approved by the City Engineer, pavement designs shall be based on AC pavement conforming to Section 00745 (HMAC) Oregon Standard Specifications for Construction and compacted to a minimum of 91 % of maximum density as determined by the Rice Standard Method.

2.13 OVERLAYS

- A. All AC pavement overlays shall include non-woven fabric specifically designed for

use with AC pavement.

- B. The standard minimum overlay thickness shall be 2-inches. In no case shall the overlay thickness be less than 1 1/2-inches. This minimum thickness shall be increased as necessary to provide the required cross slopes, with smooth transitions between all variations in cross slope.
- C. Design of overlays shall be based on an analysis of the existing pavement condition by a registered professional engineer experienced in the design of pavements, and shall result in the minimum practical design life as specified. Unless otherwise approved by the City Engineer, testing of the existing pavement shall include the following as a minimum.
 - 1) Coring of the street at maximum 50 foot intervals to establish the thickness and condition of existing pavement and aggregate base.
 - 2) Non-destructive falling weight deflectometer tests on the existing pavement proposed for overlay.
 - 3) Preparation of an engineering analysis of overlay thickness required to provide the specified design life with all anticipated truck traffic.
- D. Areas of existing pavement and base rock which exhibit deflection or alligator cracking or have otherwise failed shall be excavated and replaced with new compacted base rock and AC pavement prior to the overlay. Base rock and AC pavement repair thicknesses shall match standard section thicknesses. All cracks greater than 1/8-inch in width shall be cleaned out and filled with an asphalt emulsion slurry and sand, or other method approved by the City Engineer. All crack sealing, skin patching and plugging of dig-out areas must be approved by the City Engineer prior to the placement of the final fabric and overlay.
- E. Overlay fabric shall be Petromat as manufactured by Amoco Fabrics & Fiber Company, or approved equivalent. Hot oil tack coat (PBA-5 or approved equivalent) shall be used prior to placement of the overlay fabric. Use of emulsion tack coats shall be prohibited.
- F. Asphalt overlays shall be feathered to match existing paving, catch basins, gutter pans and other structures which cannot be raised to grade. The minimum thickness at the edge of the feather shall not be less than 1/4-inch. Unless otherwise approved by the City Engineer, all existing manholes, valve boxes and other structures shall be raised to grade before the overlay. Structures raised to grade following placement of the overlay shall have the pavement saw cut around the structure as required by the City Engineer and a PCC concrete patch placed around the structure.

2.14 HORIZONTAL ALIGNMENT

- A. Horizontal centerline alignments of improvements shall be parallel with the centerline of the right-of-way. Centerline of the proposed street extensions shall be aligned with the centerline of corresponding existing streets.

- B. Unless required to match curvature of existing right-of-ways, horizontal curves shall be to an even 5 feet, and shall meet the minimum requirements listed below:

MINIMUM HORIZONTAL CURVE RADIUS	
Street Classification	Minimum Horizontal Curve Centerline Radius
Arterials	300 feet
Collectors and Continuing Residential Streets	200 feet
Cul-de-sac	160 feet
Alleys and Private Streets	100 feet
NOTE: Horizontal curve lengths shall conform to the minimums outlined herein, or the length required by the ODOT Highway Design Manual – Chapter 8 - Urban Highway Design (Non-Freeway) required by AASHTO for the posted speed, whichever is greater.	

- C. Staggering or T intersections at collectors and arterials shall be avoided within 300 feet of an opposing intersection. Intersections of local streets shall not be offset staggered less than 200 feet from an opposing intersection.
- D. Streets intersecting an arterial or collector street but not continuing through the arterial or collector street along the same horizontal alignment (i.e., a staggered or tee intersection) shall not be located within 300 feet of another street intersecting the opposite side of the arterial or collector street. Similarly, opposing-intersections of local streets shall be separated by not less than 200 feet.

2.15 MONUMENTATION

- A. Monumentation in accordance with ORS 92.060 Subsection (2) and/or 209.155 shall be completed before the City will accept street improvements. Monuments shall be set under the direction of a registered Professional Land Surveyor. A record of survey must then be filed in compliance with ORS 209.250 and any additional requirements set forth by the City.
- B. Any existing or new street or property survey monuments within the street improvement areas shall be set in approved monument boxes. Monument box submittals shall be provided to the City Engineer for review and approval.

- C. The following centerline monuments shall be set as a minimum:
 - 1) All centerline - centerline intersections.
 - 2) The centers of all cul-de-sacs.
 - 3) Curve points in accordance with ORS 92.060 and 209.155.
- D. All public utilities within the right-of-way shall be placed in positions that do not interfere with record monuments.

2.16 VERTICAL ALIGNMENT AND STREET GRADES

- A. Street grades shall be designed to allow drainage to the curb or drainage areas within the public right-of-way. To the extent practicable, street drainage should also serve as drainage for lots. In general, this requires the curbs of new streets be set a minimum of 6-inches below existing grade.
- B. Streets intersecting with a greater functional classification street or streets intended to be posted with a stop sign shall be designed with a "landing". Landings are the portion of the street within twenty (20) feet of the curb line of the intersecting street at full improvement width. Landings shall have a maximum average longitudinal slope of five percent (5%).
- C. Unless otherwise approved in writing by the City Engineer and applicable City planning authorities, street grades shall not exceed the following:
 - 1. Arterials = 6%
 - 2. Collectors = 10%
 - 3. All others = 10% except as noted below
 - Grades steeper than 10% require special approval by the Fire Chief.
 - Grades steeper than 12% require special approval by the Fire Chief and City Engineer.
- D. Minimum center line street gradients shall be 0.5% along the crown and curb for all streets.
- E. Streets intersecting with streets not constructed to full City standards shall be designed to match both present and future vertical alignments of the intersected street. The requirements of this manual shall be met for both present and future conditions.
- F. Grade changes of more than one percent (1%) shall be accomplished with vertical curves. Vertical curve K-values shall conform to the values listed below. The vertical curve K-value shall be defined as the length of the vertical curve divided by the algebraic difference between the tangent street grades ($K = L/A$).

DESIGN CONTROL FOR VERTICAL CURVES BASED ON STOPPING SIGHT DISTANCE		
Design Speed MPH	Crest Vertical Curve, Minimum K-value	Sag Vertical Curve, Minimum K-value
20	10	20
25	20	25
30	30	35
35	40	45
40	60	55
45	80	70

- G. Street grades, intersections and super-elevation transitions shall be designed to not allow concentrations of storm water to flow across travel lanes.
- H. Slope easements shall be dedicated or obtained for the purposes of grading outside of the right-of-way or to ensure that roadway fill slopes are not disturbed.

2.17 CROSS SECTIONS AND CROSS SLOPES

- A. **General**
 1. Cross-slope of the street section shall not be less than two percent (2%), and shall not exceed five percent (5%). Unless precluded by cross slope limits, the crown of the street shall be the same elevation as the top of the curbs.
 2. Symmetrical street cross sections with opposite curbs at the same level are preferred.
 3. Off-set crown cross-sections are acceptable only where required due to side hill lies and to match existing facilities. Off-set crowns shall not exceed 12 inches between the high curb and the low curb.
 4. Shed roof or inverted crown sections are not acceptable for public streets.

2.18 GRADING WITHIN PUBLIC RIGHT-OF-WAY

- A. Grading for local street and commercial/industrial classifications shall not exceed the following slopes:
 1. From curb to 1 foot behind the sidewalk: Two percent (2%) upward.
 2. From 1 foot behind sidewalk to property line: 5H:1V upward or downward.
 3. Within the street frontage public utility easement: 5H:1V upward or downward.
 4. Outside of right-of-way and private utility easement: 2H:1V up or down outside the public utility easement.

- B. Side slopes may be increased to 2H:1V up or down within 2 feet from the back of the sidewalk with approval from the City Engineer and affected utilities.

2.19 CURBS AND GUTTERS

- A. All streets shall include curbs on both sides except in the situations of interim width improvements. The minimum curb gradients shall be as outlined under Section 2.16, 'Vertical Alignment'.
- B. The standard curb for City Streets shall be Falls City Standard Detail Drawing¹ No.210 Type A curb and gutter for all road classifications.
- C. The ends of all curbs shall be tapered downward to prevent damage to vehicle tires.
- D. A six (6) inch curb exposure is normally required on residential streets and streets with curb and gutter. A seven (7) inch exposure is required on all streets where Falls City Standard Detail Drawing¹ No.211 Type C curbs are allowed.
- E. Three (3) inch diameter curb weep-holes shall be provided through curbs with inverts 1- inch above the gutter line, at the locations outlined below. Drain pipe shall be provided under all sidewalks to connect to all curb weep-holes. The location of all weep-holes shall be shown on the drawings as outlined in Falls City Standards Division 1.
 - 1. Opposite existing or anticipated roof drain downspouts (minimum 2 per lot).
 - 2. At 16 foot on center along low areas where curb top is above adjacent ground.
 - 3. At 16 foot on center adjacent to bank areas to receive groundwater.
- F. When new curbing is being placed, a stamp shall be placed to mark where each water and sanitary sewer service lateral crosses the curb line. The curbs shall be marked on the top of the curbs with an imprinting stamp a minimum of 2-inches high. The impression for a water service shall be the letter "W". The impression for a sewer or effluent sewer service shall be the letter "S".

2.20 SIDEWALKS

- A. Drain pipe shall be installed under sidewalks to connect to all curb weep-holes.
- B. Handicap access ramps meeting current ADA standards shall be provided at all corners of intersections where crossing is permitted, regardless of curb type, and at the ends of all sidewalks.
- C. Handicap access ramps shall be located so as to avoid conflict with storm drain catch basins.

- D. Sidewalks shall be constructed of concrete, and shall be a minimum of 4-inches thick except at driveway crossings, which shall be a minimum of 6-inches thick. Sidewalks shall be a minimum of 5 feet in width. The location of sidewalks within the public right-of-way shall be as approved by the City during the design process.
- E. Water meters, utility poles, etc. are not permitted within sidewalks unless authorized in writing by the City.
- F. Where clustered mailboxes or other objects larger than single mailboxes are within a sidewalk, the sidewalk shall be widened to provide clearance equal to the required sidewalk width. In no case shall the sidewalk clear space be less than 48 inches. All existing mailboxes shall be set on new posts at the time of sidewalk construction.
- G. Sidewalks, to be constructed in conjunction with street improvements provided as part of a development, may be deferred at the City's option until building construction except for the following situations:
 - 1. Arterial or collector streets fronting corner lots.
 - 2. Sidewalks along streets from which access is restricted to the fronting lot.
 - 3. Sidewalks fronting existing structures.
 - 4. Offsite sidewalks not abutting the property within the development.

2.21 INTERSECTIONS

- A. The interior angle at intersecting streets shall be kept as near to ninety degrees (90°) as possible and in no case shall it be less than seventy-five degrees (75°).
- B. Sidewalk access ramps meeting current ADA standards shall be provided at all corners of intersections where crossing is permitted, regardless of curb type.
- C. Streets intended to be posted with a stop sign or streets intersecting with a greater functional classification street shall provide a landing conforming to the requirements outlined under Section 2.16, Vertical Alignment and Street Grades.
- D. The intersection of an arterial or collector street with another street shall have a minimum 100 feet centerline tangent adjacent to the intersection as measured from the curb line of the intersected street. Other streets shall have at least 50 feet of tangent adjacent to the intersection.
- E. Curb radii at intersections shall be as shown below for the various functional classifications. The right-of-way radius at intersections shall be sufficient to maintain the same right-of-way to curb spacing as the lower classified street.
- F. All newly platted or newly approved streets shall be signed with a name approved by the City.

MINIMUM INTERSECTION CURB RADIUS			
STREET CLASSIFICATION	Arterial Street	Collector Street	Local Street
Arterial Street	35 FEET	-	-
Collector Street	30 FEET	30 FEET	-
Local Street	28 FEET	28 FEET	28 FEET

2.22 CLEAR VISION AREA

- A. Clear vision areas shall be maintained at each access to a public street and on each corner of property at the intersection of two streets.
- B. No fence, wall, hedge, sign, or other planting or structure that would impede visibility between three (3) feet and eight (8) feet shall be established in the clear vision area. Measurement shall be made from the top of curb or, where no curb exists, from the street edge grade.
- C. The clear vision area shall consist of a triangular area, two sides of which are right-of-way lines or a right-of-way line and access easement line. Where right-of-way lines have rounded corners, the right-of-way lines shall be extended in a straight line to the point of intersection and so measured. The third side of the triangle shall be a line connecting the non-intersecting ends of the other two lines.
- D. For single use residential driveways, the clear vision area shall consist of a triangular area, two sides of which are the curb line and the edge of the driveway. Where no curbs exist, the future location of the curb based on full street improvements shall be used.
- E. The following measurements shall establish the clear vision areas:

CLEAR VISION AREA MEASUREMENTS	
Type of Intersection	Measurement Along Each Lot Line or Drive Edge'
Controlled Intersection (Stop sign/signal)	20 feet
Uncontrolled Intersection (60' r/w)	30 feet
Uncontrolled Intersection (<60' r/w)	40 feet
Commercial / Industrial Driveways	20 feet
Common Use Residential Driveways & Alleys	20 feet
Single Residential Driveways	10 feet
*At the intersection of different classification streets, the measurement shall apply to the measurement along the right-of-way line as specified for each street classification.	

- F. The preceding provisions shall not apply to the following:
1. A public utility pole.
 2. A tree trimmed (to the trunk) to a line at least eight (8) feet above the level of the intersection.
 3. An official warning sign or signal.
 4. A place where the natural contour of the ground is such that there can be no cross visibility at the intersection.

2.23 CUL-DE-SACS, TURNAROUNDS

- A. Cul-de-sacs shall be as short as possible and shall have a maximum length of 400 feet long and serve no more than 18 dwelling units unless otherwise approved by the City.
- B. The Falls City standard details¹ show typical configurations for cul-de-sac turnaround areas. Cul-de-sac geometric dimensions shall conform to the standards listed herein.
- C. Other turnaround geometries may be used when conditions warrant and the City Engineer approves the design and application of its use.
- D. The minimum curb radius for transitions into cul-de-sacs bulbs shall be 28 feet and the right-of-way radius shall be sufficient to maintain the same right-of-way to curb spacing as in the adjacent portion of the street.
- E. The finished pavement grade from the center point of cul-de-sac turnarounds to the curb shall not be less than two percent negative (-2%).

2.24 STUB STREETS

- A. Stub streets allow for future extensions. If a reserve strip is required by the City at the terminus of the right-of-way, the reserve strip shall be conveyed to the City by recorded deed. The reserve strip shall be at least one foot in width and extend the full length of the right-of-way.
- B. A paved turn around shall be provided for stub streets with lengths greater than 150 feet.
- C. Barricades shall be placed at the end of all stubbed roads without a cul-de-sac turnaround.

2.25 TRANSITIONS

- A. Street width transitions from a narrower width to a wider width shall be designed with a 10:1 taper. Delineators, as approved by the City, shall be installed to mark the edges of the transition.
- B. Street width transitions from one width to a narrower width, or lane alignment transitions shall be designed with the length of transition taper as follows:
$$L = S \times W$$

Where L = minimum length of taper (feet)
 S = Designated Speed (MPH)
 W = EP to EP offset width
- C. Delineators, as approved by the City, may be installed to define the configuration. Maximum spacing of delineators shall be the numerical value of the design speed, in feet (i.e. thirty-five (35) foot spacing for thirty five (35) MPH).
- D. In situations where a tapered transition cannot be provided, a barricade shall be installed at the end of the wider section of the street and a taper shall be appointed and delineated as approved by the City. The barricade shall conform to MUTCD Standards.

2.26 SUBSURFACE DRAINAGE

- A. Subsurface street drainage must be considered in the design of each street. Subsurface drains shall be designed and constructed per the standard drawing details or the recommendations of the soils report.
- B. Subsurface drains shall connect and drain into the storm drainage system at catch basins, curb inlets, gutter inlets, manholes or road side ditches. Surcharge from the storm drainage system shall not be allowed to back up into the subsurface drains. Alternative subsurface drainage measures may be used if approved by the City.

2.27 PARKING LOTS

- A. Minimum pavement sections for parking lots over compacted subgrade shall conform to the following:

PARKING LOT MINIMUM PAVEMENT SECTIONS		
Classification	Pavement Thickness (inch)	Base rock Thickness (inch)
Parking Lot Access Route	3 (AC)	10
Parking Lot	2-1/2 (AC)	7

- B. Access routes through parking lots, which are to be used by delivery trucks, service vehicles, fire trucks, or automobiles in excess of 500 vehicles per day, shall conform to the minimum access route section outlined above.
- C. The dimensions for the design and layout of parking facilities shall conform to the requirements listed in the Zoning and Development Ordinance.
- D. Parking lots and associated driveways shall maintain adequate drainage facilities to prevent water ponding or ice formation. In general, this requires a minimum cross slope of two percent (2%) perpendicular with contour lines. In no case shall cross slopes less than one percent (1%) be allowed at any point. All drainage facilities shall conform to the requirements of Falls City Division 3 Design Standards¹.
- E. Storm runoff calculations shall be prepared using ODOT Rainfall-Intensity-Duration-Frequency (IDF) curves that are appropriate the subject location. Contact the City Engineer for clarification and guidance regarding storm runoff requirements.
- F. Curves and corners within the parking facilities shall have a minimum curb radius of 15 feet except for emergency access lanes, where a minimum curb radius of 28 feet shall be required.
- G. Bumper guards or wheel barriers shall be installed so that no portion of a vehicle projects into the right-of-way or over the adjoining property.
- H. Driveways on residential corner lots shall be located on the lower classification street. Unless otherwise approved or directed in writing by the City, driveways on multi-family, commercial and industrial lots shall also be located on the lower classification street.

2.28 DRIVEWAY SPACING

- A. No more than one driveway per property shall be permitted in residential zones except for duplexes.
- B. Where possible, driveways for corner properties shall be located on the lowest classification street and as far from the intersection as possible.
- C. Residential driveways of adjoining properties shall have a minimum of 15 feet clear between the edges of the driveways.
- D. Location of all driveways serving commercial, industrial or multifamily facilities shall be approved by the City.
- E. Driveways shall be separated from an intersection by a minimum of 30 feet or one-half the lot frontage, whichever is greater.

2.29 DRIVEWAYS AND DRIVEWAY APPROACHES

- A. Driveways shall conform to Falls City Standard Details¹. Curb removal for driveways shall be by saw cutting.
- B. Driveway approaches shall be constructed to meet current ADA standards at all locations where sidewalks cross or will cross the driveway.
- C. Driveway approaches on curbed streets shall be constructed of concrete, and shall be a minimum of 6-inches thick.
- D. All driveways shall have a minimum ten (10) foot paved approach from the back of sidewalk location.
- E. Multiple use driveways shall be paved completely.
- F. Common driveways serving multiple lots and flag lot driveways over 150 feet in length shall be provided with an emergency turnaround meeting the requirements of the Police and Fire Departments.
- G. Maximum slope of driveways shall not exceed 15%.

2.30 PRIVATE STREETS, COMMON DRIVEWAYS AND FLAGLOTS

- A. Private streets serving more than 4 residences shall be constructed to public street standards.
- B. A turn-around shall be required for any private residential street which has only one outlet and which is in excess of 150 feet long or which serves more than two residences. Non-residential private streets serving more than one ownership shall

provide a turnaround if in excess of 150 feet long and having only one outlet. Turn-arounds for private streets shall be either a circular turn-around with a minimum paved radius of 35 feet, or a tee or hammerhead turnaround conforming to current Oregon Fire Code standards.

- C. Pavement sections and widths for common driveways, flag lot drives or partition access easements shall conform to the following:

MINIMUM PAVEMENT WIDTH AND SECTIONS			
Classification	Minimum Paved Width ^{1 2}	Pavement Thickness (inch)	Base Rock Thickness (inch)
Common Drives serving 2 lots	20 ft.	2 ½ (AC)	8
		6 (PCC)	2
Flag Lot Driveway serving 1 lot	12 ft	2 ½ (AC)	6
		6 (PCC)	2
Partition Access Easement	20 ft	2 ½ (AC)	6
		6 (PCC)	2
1-Wider pavement widths may be required by the local fire chief.			
2-Paved width shall be measured from the face of curb where curbs exist.			

- D. As a minimum, all grading for flag lot drives shall be completed by the developer at the time of street and utility construction.

2.31 STREET LIGHTING

- A. Street lighting shall be provided as part of the street design process. Street lights shall be located as near as possible to lot line extensions and not in the middle of lots.
- B. Spacing and location of street lighting shall be approved by the City Engineer based on a photometric design. The design and installation of street lights shall be paid for by the developer.
- C. Street lights shall be installed a minimum of 1 foot behind curb line sidewalks.
- D. Street lights may be installed between the curb and property line sidewalks provided the street light is a minimum of 3-feet behind the face of curb and 1 foot from the sidewalk.
- E. Street lights shall be placed at all street intersections. Unless otherwise approved by the City Engineer, street light spacing shall not exceed 200 feet or 3 lot widths, whichever is less. As noted in Falls City Division 1¹ paragraph 1.1(d) of these standards, lesser spacing must be used whenever required by the photometric design.

2.32 BARRICADES AND GUARDRAILS

- A. Guardrails shall be provided on all streets with downhill slopes which drop 6 feet or more at greater than 3H:1V slopes.
- B. Guardrail installation shall be based on Oregon Standard Specifications for Construction - Part 00800 Permanent Traffic Safety and Guidance Devices.
- C. Guardrails shall be designed and constructed per ODOT Roadway Engineering Highway Design Manual and RD 400 series drawings.
- D. Barricade installation shall be based on the "Manual of Uniform Traffic Control Devices." Basically red and white reflectorized Type DI barricades shall be used at the end of a street. White and black reflectorized Type DT barricades shall be used at the end of a street widening which does not taper back to the existing pavement width. White and black reflectorized Type II barricades shall be used at the end of the sidewalk or pedestrian/bike path.

2.33 BIKEWAYS

- A. Bikeway locations shall be determined by the City. Bikeway facilities shall meet the requirements of this document and the latest edition of the ODOT Bicycle and Pedestrian Plan.
- B. A bikeway may be constructed adjacent to the curb within the pavement area.
- C. Structural sections of bikeway facilities on streets shall conform to that of the street or be integral with the curb. Bikeways not within a street shall be constructed upon compacted subgrade, to one of the following pavement section designs:
 - 1. 4-inches of asphalt concrete over 2-inches of compacted base rock, or
 - 2. 2 1/2-inches of asphalt concrete over 4-inches of compacted base rock, or
 - 3. 4-inches of Portland cement concrete over 2-inches of compacted base rock.
- D. Design Standards regarding horizontal alignment, grade, sight distance, intersections, signing, marking, structures, drainage and lighting shall conform to ODOT Standards and shall be approved by the City Engineer. When bikeways are integrated with a curb, all inlet grates shall be designed to protect the bicyclist from the grate or opening.

2.34 STREET SIGNS

- A. Street signs shall be installed on all new public and private streets. Street names for all newly platted streets shall be approved by the City.
- B. Sign material shall conform to ODOT Specifications and City Standards. Location and type of signs shall conform to the ODOT and City Standards.

- C. Signs along County right-of-ways shall be approved by the County as appropriate.
- D. All signs shall be installed and paid for by the developer. Street names and sign types shall be approved by the City prior to placement of the sign order.

2.35 CUTTING EXISTING STREETS

- A. No street in the City of Falls City shall be cut within 5 years of construction or reconstruction unless approved by the City Engineer and authorized in writing by the City Council. This time period may be extended in one (1) year increments by resolution by the City Council on a case-by-case basis.
- B. In the event that the City allows a street to be cut within the time limit outlined herein, the trench in AC pavement streets shall be restored as follows:
 - 1. The trench shall be backfilled full depth with a slurry backfill (control density fill) approved by the City Engineer. The mix design shall be submitted to the City and approved prior to cutting the street.
 - 2. The trench edges shall be over-cut square and straight to a minimum width of 6-inches from each edge of the trench following completion of the backfill and prior to the final patch work.
 - 3. An asphalt wearing course of Class B mix shall be placed in two lifts to a minimum compacted depth of 4-inches or the depth of the existing pavement, whichever is greater.
 - 4. An overlay of Modified Class C mix to seal the cut area shall be placed following the completion of the trench patching. The overlay shall cover the cut area to a minimum compacted depth of 1-1/2 inch and extend a minimum of 40 feet beyond the cut area in each direction along the street. Unless otherwise approved by the City Engineer, the overlay shall encompass the entire paved width of the street.
 - 5. The overlay shall meet all requirements outlined in PWDS Section 2.13, Overlays. An 18 inch strip of Petromat fabric shall be installed over all trench patch joints.

If this work is performed by a private party, a maintenance bond for the cost of the original construction and repair shall be posted with the City stating that the party shall be responsible for the condition of said pavement patches for a period of two (2) years, and during that time shall repair to the City's satisfaction any of the patches which become settled, cracked, broken or otherwise faulty."

- C. Street cuts in PCC concrete streets shall be restored as required by the City Engineer.