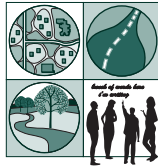




# IMPLEMENTATION STRATEGIES AND ACTION MEASURES



## Damascus/ Boring Concept Plan

To guide the implementation  
of the concept plan



November 29,  
2005





# Damascus/ Boring Concept Plan

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## **Implementation Strategies and Action Measures**

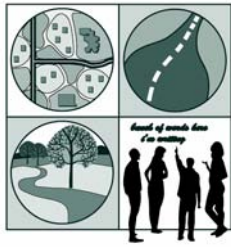
**November 29, 2005**

**Prepared by:**

**Clackamas County  
Metro  
City of Damascus  
City of Happy Valley  
ODOT  
Otak**

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# Damascus/ Boring Concept Plan

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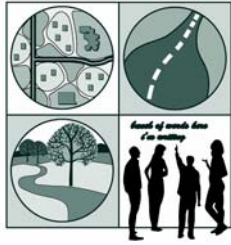
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# Damascus/ Boring Concept Plan

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## Project Goals

### **GOAL A: COMMUNITY**

Create a well-designed community with core mixed-use areas, livable neighborhoods and a range of job opportunities all integrated with the transportation system, natural environment, open space network and public facilities.

### **GOAL B: EMPLOYMENT**

Provide for a diverse range and adequate amount of employment opportunities.

### **GOAL C: HOUSING**

Provide housing choices for people of all income levels and life stages.

### **GOAL D: TRANSPORTATION**

Provide an effective transportation system that provides a range of travel options.

### **GOAL E: NATURAL RESOURCES**

Preserve, restore and/or enhance unique areas, natural features, fish and wildlife habitats and special places.

### **GOAL F: PUBLIC FACILITIES**

Plan for adequate and coordinated public facilities and services, including sewer, water, storm drainage, police, fire, parks and schools.

### **GOAL G: RURAL CHARACTER**

Retain rural character while accommodating a fair share of urban development.

### **GOAL H: FUTURE GROWTH**

Recommend long-range boundaries for future expansion of the UGB or designate urban reserves in the Secondary Study Area.

### **GOAL I: FEASIBILITY**

Ensure that the concept plan can be implemented.

### **GOAL J: URBAN DESIGN**

Ensure the Concept Plan reflects the state of the art of urban design principles and practice, built from centuries of experience, and applied to a new 21st century community.

## Introduction

This document contains the implementation strategies for the Damascus/Boring Concept Plan. The series of strategies and action measures will be the basis for future implementation of the plan. They are designed to serve three purposes:

- (1) form the bridge between the broad vision of the concept plan and the detailed regulations and actions needed to implement the plan;
- (2) be a starting point for future comprehensive planning activities by the cities of Damascus, Happy Valley and Gresham; and
- (3) fulfill the implementation strategy requirements expressed in the Damascus/Boring Concept Plan work program.

Additional strategies and action measures will emerge as the cities work to fully meet Title 11 of Metro's Urban Growth Management Functional Plan and other local, state and regional requirements.

## Document organization

A set of strategies and action measures were developed for all of the major elements of the concept plan: land use, natural resources, transportation and public facilities. A common format of goal, principles and recommended action measures will be used for each section of the report.

The *goals* represent a broad, general statement of what the concept plan is trying to achieve – indicating a desired end or the direction to follow to achieve that end. The *principles* highlight different elements of the goal and provide more specific direction on how the goal will be achieved. The *recommended implementation strategies and action measures* focus on key concepts and direction for subsequent regulations and implementation efforts and are intended to guide future implementation of the concept plan. The strategies and actions, which if executed, would implement the concept plan vision and the project goals and principles. The public facilities strategies also include rough cost estimates for the provision of services.


A separate technical appendix includes additional supporting information that should also be used by implementing agencies as they move forward with comprehensive planning efforts.

## Implementation agencies

The implementing agencies are primarily the cities of Damascus, Happy Valley and Gresham in coordination with the service providers for schools, parks, water, sewer, stormwater and emergency services, Metro, Clackamas County, Oregon Department of Transportation, Federal Highway Administration, TriMet, and Multnomah County.

The cities of Happy Valley and Gresham already have many of the implementation tools in place (e.g., comprehensive plan, zoning ordinance, capital improvements program) and will need to amend existing plans and ordinances to implement the concept plan map and strategies for the area within their respective jurisdiction. The city of Damascus must develop and adopt a comprehensive plan and implementing ordinances, zoning code and transportation system plan for the concept plan area within the city's boundary.



|   |   |
|---|---|
|  <p><b>Damascus/<br/>Boring</b><br/>Concept Plan</p> | <p><b>SECTION 1.</b><br/><b>COMMUNITY AND URBAN DESIGN</b><br/><b>IMPLEMENTATION STRATEGIES</b></p> |
|---|---|

**GOAL A: COMMUNITY**

Create a well-designed community with:

- Core mixed use areas,
- Livable neighborhoods and
- A range of job opportunities.

All integrated with the:

- Transportation system,
- Natural environment,
- Open space network, and
- Public facilities.

**PRINCIPLES** – We will plan for:

- A1: Neighborhoods as the basic “building blocks” of the community.
- A2: Mixed-use centers that encourage a sense of community.
- A3: A diverse range of job opportunities.
- A4: A mix of uses and transit supportive densities along transit streets.
- A5: A well-connected network of transportation, land uses and natural resource systems to support public transit, walking and bicycling.
- A6: An integrated system of open space, parks and natural areas throughout the community, using them as an organizing principle for land uses.  
{Note: This is addressed in Goal F and principles}
- A.7: Pedestrian-friendly public spaces that accommodate outdoor activity and socialization within both residential and commercial districts.

**GOAL J:** *Ensure the Concept Plan reflects the state of the art of urban design principles and practice, built from centuries of experience, and applied to a new 21st century community.*

**PRINCIPLES** – We will recommend:

- J1: An overall community design and form that is coordinated with the larger systems of the Portland Metropolitan area.
- J2: The design of a new community that fits the contours and form of the unique Damascus/Boring landscape, and honors local history, climate, ecology, and building form.
- J3: An overall urban form that is organized into a logical pattern of town center(s), neighborhood centers, corridors, neighborhoods and industrial and employment districts.

- J4: Great vistas and views at many scales and forms - ranging from the broad landscape vistas, to city views terminated on civic buildings, to the tree-lined neighborhood blocks.
- J5: Designs that use green spaces and natural features as ways of organizing and connecting physical elements for the community.
- J6: Great streets that serve as part of the public realm for people, as well as transportation corridors for vehicles.
- J7: Compact, pedestrian-friendly, and human-scale places that support comfortable walking to ordinary activities and interaction with neighbors.
- J8: The creation of great civic buildings and gathering places.
- J9: Planned transitions (a.k.a. a “transect”) from urban core(s) to neighborhoods to rural and resource areas.
- J10: A plan that sustains and enhances the economic, ecological, civic/financial and social fabric of Damascus/Boring community in the long term.

## **RECOMMENDED ACTION MEASURES**

### **A. Comprehensive Plan and Implementing Ordinances**

1. Amend or establish new comprehensive plan designations, zoning ordinance language, capital improvements program, review processes, etc. based on the specific opportunities and problems identified in the Damascus/Boring Concept Plan and the Damascus Boring Concept Plan Design Types Report (see Community and Urban Design Appendix 1). Within each Design Type, consider development standards addressing appropriate location of specific land uses with the Design Type, and the transitions and compatibility between land uses.
2. Consider zoning ordinance language to make it easier to locate schools, parks and other public facilities out-right with standards to address traffic and other impacts.
3. Consider sustainability principles/measures. (See CUD Appendices 3, 4, and 5)

### **B. Architectural or Design Identity / Style**

1. Develop an “identity” or “style” for Damascus (Happy Valley has the “Happy Valley Style” document) that could include a logo or symbol, architectural elements, building materials, landscape materials, signage requirements, etc., for the entire city, the city center and/or individual neighborhoods. (Example: Cascadian style buildings)
  - Consider local history, including historic building form and materials, human scale, quality and durability;
  - Reinforce a sense of place;
  - Base identity on principles as opposed to rigid stylistic; and
  - Allow for architectural variety and evolution.

2. Develop and implement design intent, guidelines or standards that translate the identity / style into specific tools, guidelines, requirements for the various design types. Consider developing a hierarchy, whereby the more visible and intense land uses would have more standards or requirements than the less intense types. A priority for land uses could be: Gateway(s), Town Center, Neighborhood Centers; commercial and retail developments, industrial developments, higher density residential development, lower density residential development.

The design intent and guidelines could include the following:

- a) Special architectural intent and standards for civic buildings, lighting, street design elements, and other public investments.
  - b) Requirement for all public investments to be consistent with the “identity” standards (e.g., outdoor lighting, public “furniture,” public buildings).
  - c) Design guidelines and standards for development based on the identity / style, which could address the following, among other, elements:
    - Site design
    - Minimum and/or maximum setbacks
    - Visibility standards for buildings (such as height limitations, roof style, requirements for certain building materials or colors, etc.)
    - Signage
    - Landscaping including parking lot landscaping
    - Plant materials, considering native plants
  - d) Special intent for incorporation of natural features and green systems into urban development, and making green system elements a focal point of the community. Consider tree ordinances and native vegetation requirements.
  - e) Level of intent to implement green or sustainable development practices
  - f) Special design approach for industrial development, which is located at gateways to the city.
  - g) Approach to signage
3. Establish a development review process to ensure implementation of the adopted identity / style. The process could range from staff review of development according to standards, to a volunteer committee composed of professionals commissioned by the city to review commercial, industrial, multi-family development.
  4. Consider designing gateways for entries to the city of Damascus and the city of Happy Valley. These could include the following:
    - Develop specific standards for the gateway(s) that conform to the established architectural identity.
    - Identify location of appropriate gateways.
    - Establish special urban design standards for development along entry streets within each jurisdiction:
      - Hwy 212 – proposed Damascus Boulevard
      - Sunnyside Road
      - 172nd Ave.

- 242nd Ave.
- Sunrise Parkway (and maybe its access streets)
- Plan for acquisition of additional right-of-way, if needed.
- Consider development standards addressing signage, landscaping, and adjacent development

### **C. Green as an Organizing Principle**

The design approach for urban form of the Concept Plan has preserved a significant conservation area and a large “transition” area that will have limited development. Stream corridors are woven throughout the community. Standards will need to be developed to implement the intent for those green system elements to be focal points of the community. The relationship of urban design to the natural systems could address the following:

1. Include goals and standards supporting green design elements in the Comprehensive Plan and Zoning ordinance document. Examples could include:
  - Natural areas as focal points of the community
  - Protect the forested walls of the buttes
  - Protect and restore vegetation along streams
  - Use green building design
  - Develop landscaping on streets
  - Develop green streets
  
2. Develop standards or strategies to site public use facilities so that they will augment, enhance, and take advantage of natural systems and features where feasible. Target facilities could include:
  - Civic and other public use buildings
  - Roadways
  - Parks
  - Schools
  - Regional storm water detention facilities
  
3. Develop and adopt site design and development standards to apply to land uses next to natural features, wildlife or stream corridor areas, etc. The intent is aimed at preserving and protecting the natural resource, as well as emphasizing natural features as focal points and amenities to development. For example:
  - Guide the relationship of buildings, open space, and other development to the natural features in order to enhance both protective intent and opportunities for viewing or access.
  - Consider having streets border natural areas in order to provide viewing or physical access, versus the disadvantages of development adjacent to natural areas.
  - Develop limits to or standards for access to habitat and water quality protection areas.
  - Allow no-to-minimum site disturbance within identified setbacks.

- Require the use of native plants on part or all of the site.
  - Minimize impervious surfaces through tools such as shared parking, structured parking, maximum impervious surface allowed, grasscrete, etc.
4. Consider requirements or incentives for habitat restoration
  5. Existing natural features, such as woodlands, wetlands, or stream corridors, provide special opportunities to enhance the quality of the city center or neighborhood centers. In the case of wetlands, adjacent development risks changing the hydrology and creating future problems. When present, they should be given special design consideration for restoration, augmentation, enhancement, and placement of urban elements in proximity to them in order to retain and protect their quality and incorporate them into the urban landscape as special natural features. A few areas that have been identified by the Damascus community include:
    - Hoffmeister forested wetlands in the city center. Action should be taken to assure accurate determination of its definition and delineation.
    - Sunshine Creek tributaries wetland in north 242<sup>nd</sup> Ave. area
    - Richardson Creek tributaries in the historic Damascus center area.

## D. A Great City Center

Develop an integrated master plan for the city center to implement the “identity” and create a high-quality pedestrian environment. Use the Concept Plan Design Types document as a guide to the types of uses planned for the city center. Guidelines or standards consistent with the master plan would guide development of the city center.

1. Such a master plan should address at least the following:
  - a. Urban Design. Establish a guiding principle that inspired urban design is essential for the economic viability of the city center.
    - Develop a more detailed breakdown of location and relationship of land uses allowed within the Town Center design type area. Include details of how these various uses are placed in relation to each other, required connectivity, mix and variety. The master plan should identify districts for specific uses, and address the relationships between uses, access, visibility, and timing of services.
    - Implement this by developing the master plan with the assistance of urban designers.
    - Consider design competitions or similar techniques to achieve inspired urban design when developing the master plan for the city center, and when designing civic uses such as city hall and the grand boulevard
    - Develop a city center master plan review process.
  - b. Retail and Office uses.
    - Plan for sufficient retail land in the city center (600,000 – 800,000 sq ft).
    - Plan for the city center to be the primary location for office uses in the city.

- Accommodate large format retail uses<sup>1</sup> in the city center if they meet special design standards and guidelines, such as:
    - storefront orientation to streets
    - maximum block size and setbacks
    - multi-story construction.
    - consider developing an incentive program for higher architectural standards.
  - Discourage or prohibit large format retail in other areas, especially in Industrial and Mixed Employment
  - Develop a strategy to assure high FARs without undermining the ability for retail and office to be feasible. Examples include: shadow platting, shared parking and publicly owned parking.
- c. Civic and institutional uses. Plan for the city center to be the location of most of the key civic and institutional uses.
- Plan for the inclusion of higher education and health care facilities in the city center.
  - Plan for civic uses to be located in the city center, including city, state, county and federal facilities. Examples: city hall, city library, post office, state social services branch facility.
  - Civic uses should be planned and prominently located as anchor elements on the key streets (e.g. 232<sup>nd</sup> Ave and HWY 212). Consider placing civic uses at the visual end of a street, park or other sight line, creating a “terminated vista.”
- d. Residential. Plan the city center as a very desirable mixed-use neighborhood that includes a full array of services and amenities.
- Assure that it has excellent ped/bike, transit and vehicular transportation facilities and amenities, parks, schools, and a grocery store.
  - Adopt architectural standards that support or encourage walkable neighborhoods (see Housing C: Housing Design that Contributes to a Safe, Walkable Neighborhood).
  - Design for safety.
- e. Parking. Provide for enough parking to support the desired uses, especially retail, but not so much as to interfere with pedestrian-oriented design.
- Plan for shared parking, including on-street parking.
  - Plan for some structured parking to create more pedestrian oriented urban design.
  - Plan for the proportion of parking that is structured to increase over time as the area intensifies.
  - Develop a parking management plan.
  - Consider public parking strategies.
- f. Streets. Streets in the city center may be the most important part of the public realm for most city residents.
- Generally use “Livable Streets” principles in design approach.

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<sup>1</sup> Large format retail uses are commercial retail uses with more than 60,000 square feet of gross leasable area, conventionally built on one level with surface parking

- Provide streets that serve transportation functions for all modes of transportation and that also have amenities to support the overall urban design of the city center. (See street standards in Transportation section)
  - Develop a strategy to assure a grid street pattern. Determine maximum block size and connectivity requirements. In determining the block size, study those of successful pedestrian environments (e.g. downtown Portland, Corvallis and Lake Oswego; Willamette district of West Linn.)
  - Assure integration of and connection between the city center and adjacent neighborhoods.
  - Consider a program to support public art and sculpture.
- g. Green Development Practices. Plan for green development practices in the city center. Examples: subsidize structured parking to reduce impervious surface and use land more efficiently; green roofs on civic buildings; density bonuses for LEED certifications (LEED: Leadership in Energy and Environmental Design Green Building Rating System®).
- h. Public-private partnerships. Develop public-private partnership for development of both public and private facilities and amenities. Examples: private development of public plazas that are adjacent to private buildings, or public development of the lake in downtown Tualatin, which is an amenity for the private development surrounding it. Direct and phase public investments to “jumpstart” the city center within the existing UGB (October 2005).
- i. Intensification over time. Plan for infill and intensification of development over time. For example:
- Allow buildings that meet a standard for design, scale, materials, relationship to the street, (other elements), that can be converted to different uses as the city center evolves.
  - Require uses that build large surface parking lots, such as large format retail uses, to conform to a block pattern so they can be redeveloped at a later time with a more intense use.
  - Develop a long range plan for expansion of the City Center into the future urban area
2. Implement standards to assure a strong main street “spine” for the city center on 232nd Ave. Transportation design modifications should assure that high capacity transit does not create a barrier street or difficulty for pedestrians. Implementation measures could include:
- Maximum main street width. A couplet along 232nd Ave. has been discussed as a possible design solution if a two-way main street becomes too wide. Consider the building height to street ratio as a measure of pedestrian oriented and human scale when designing 232<sup>nd</sup> Ave.
  - Pedestrian amenities including chokers and refuges
  - Street trees and other landscaping or hardscaping features.
  - Relationship of buildings to the street
  - Mix of uses, allowing housing above retail or office
3. Develop special design standards for the portion of Hwy 212 that is within the City Center with the intent of making the City Center as pedestrian friendly as possible and addressing

potential major barriers to integration on either side of the highway. These standards could include:

- Boulevard treatment;
  - Special pedestrian and bicycle crossing design;
  - Street trees and other landscaping;
  - Including a sizeable, quality urban park that bridges Hwy 212 tying north and south together
4. The Sunrise Parkway, adjacent to the City Center should receive special design attention to minimize its being a barrier and assures effective access to the land uses to the south. Designing the City Center in the best relationship to a major transportation facility is critical, such that the road supports the City Center but does not create a major barrier.
- Work with parkway planning agency to design the most advantageous vertical and horizontal alignment of the parkway to serve the needs of the City Center and employment sites.
  - Consider special design of access intersections to the parkway
  - Determine minimum distance between vehicular and ped-bike crossings. Plan for the location and design of those crossings by using over or underpasses.
  - Consider waysides or viewpoints to take advantage of great views of Noyer Creek canyon, Mt Hood and the Clackamas River valley.
4. Develop a strategy to influence UGB expansion. The City Center plan utilizes some land that is not currently within the Urban Growth Boundary. Implementation measures should include working with Metro to assure eventual incorporation of this land into the UGB and designation as Town Center design type.
5. Develop and adopt pedestrian-oriented standards and strategies for accommodating and integrating retail uses that are commonly developed as large format auto-oriented uses. The city of Damascus should implement design intent, guidelines or standards for large format retail consistent with the adopted Identity of Damascus.

These standards may include, but are not limited to, the following tools:

- Street orientation
- Maximum footprint
- Façade requirements pertaining to entries, windows, materials, relief on walls, etc.
- Location of parking
- Maximum block size

## **E. Walkable, Bikable, Transit Oriented Neighborhoods, and Centers**

The convenience and directness of walking to local destinations, in addition to just being close to them, should be carefully considered in implementation measures. Model ordinances, principles, and tools for pedestrian and transit oriented development standards are available from several sources. (See Community and Urban Design Appendix 2)

1. Develop and adopt standards to assure direct access by pedestrians and bicyclists between neighborhoods, centers, parks, schools, and employment, which could include the following:
  - A master connectivity plan, addressing local street spacing and alternative pedestrian and bicycle connections (see Transportation Implementation Measures Section).
  - Use of roundabouts and other traffic-calming devices
  - A more detailed breakdown of location, mix, and relationship of land uses allowed within the Neighborhood Center design type areas. Include details of how these various uses are placed in relation to each other, required connectivity, mix and variety.
  - Work with school and park districts to:
    - locate facilities in order to maximize direct pedestrian and bicycle access and safety from residential neighborhoods to schools and parks; and
    - create a network of connected schools, parks and trails.
  - Strategies for linking and integrating existing subdivisions into new adjacent urban development.
  - Special provisions to integrate the clustered housing in the transition areas with the “urban” areas
  - Design for safety of pedestrians and bicyclists
  - Design elements for streets, buildings, and site layout
  - Pedestrian and bicycle facilities and amenities
  - Mix of densities in all neighborhoods
  - Street trees and other landscaping, street furniture, pedestrian scale lighting fixtures
  - Civic plazas
  - Standards for delineated crosswalks
  - Standards for building height
  - Pedestrian-oriented block size
  - Maximum building setbacks
  
2. To increase the efficient use of urban land, consider a strategic zoning and infrastructure investment plan, by which areas with urban services (sewer, water, and transportation) shall be developed to at least a minimum level before extending urban services to new areas.
  
3. Facilitate the intent of creating transit supportive densities along transit routes (generally at least one block deep, adjusted to the site- so that it is deep enough to build quality multi-family development). The following implementation strategies should be considered:
  - Within the residential areas, apply the higher density residential comprehensive plan and zoning district categories along transit corridor streets.
  - Within the Mixed Employment design type, apply the mixed-use, higher density residential, office and retail comprehensive plan and zoning district categories along transit corridor streets, extending from a Center design type for a distance between ¼ and ½ mile.
  - Extending from a Center design type along the transit street for a distance between ¼ and ½ mile, consider creating Comprehensive Plan and Zoning district designations that allow for a mix of multi-family and office uses (e.g. 85% multi

family @ 28 DU/ac., 15% office) and also allows for schools, institutions, medical campus uses and independent and assisted living facilities.

- Adopt transit oriented development standards along transit corridor streets within the Town Center, Neighborhood Center, Corner Store, Residential A, Residential B, Mixed Employment and Industrial design type areas.

## **F. Master Planning for Special Areas**

### **1. North 172nd Ave. Neighborhood Center Area**

Northern 172nd Ave. Neighborhood Center area needs special attention to result in good urban design. It should be designed as a strong corridor for this area.

Implementation measures could include:


- a. Transportation design modifications assuring that added width and high volume traffic and transit do not create barriers for pedestrians.
- b. Pedestrian amenities including curb extensions and pedestrian refuges.

### **2. Historic Damascus Neighborhood Center Area**

- a. Adopt standards (perhaps a master plan) for guiding infill development and improving vehicular access and pedestrian amenities.
- b. Work with ODOT on design of Hwy 212 to prevent its being a barrier and assure its being as pedestrian friendly as possible.
- c. Support the goal of protecting and improving the quality of Richardson Creek.

### **3. Carver Area**

- a. Adopt a Master Plan to guide development considering the following:
  - Develop Carver as a tourism center and the “Gateway to the Clackamas River,” given its relationship to the Big Park. Develop recreation associated uses.
  - Plan for a resort center for the bluff above Carver and recruit a developer.
  - Accommodate changes to access that may result from the new bridge.
  - Explore opportunities for public/private partnerships.
- b. Develop a Hwy 224 Corridor Refinement Plan for the areas between Hwy 224 / Hwy 212 intersection and Estacada.
- c. Work with ODOT on design of Hwy 224 to prevent its being a barrier and assure its being as pedestrian friendly as possible through Carver.

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|  <p><b>Damascus/<br/>Boring</b><br/>Concept Plan</p> | <p><b>SECTION 2.<br/>EMPLOYMENT<br/>IMPLEMENTATION STRATEGIES</b></p> |
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**GOAL B:** *Provide for a diverse range and adequate amount of employment opportunities.*

PRINCIPLES – We will plan for:

- B1: Reasonable amount of industrial and employment areas to address the employment needs for those living within the study area, as well as to contribute to county-wide needs.
- B2: Employment uses to be accessible by a full range of transportation modes (i.e.-automobile, freight, transit, shared ride, pedestrian and bicycle).
- B3: A mix of retail, civic, and related uses and services that serve the daily needs of the local community.
- B4: Employment uses that take advantage of and reflect the natural resource qualities of the land, including forested buttes, salmon bearing streams, agricultural products and beautiful views.

## RECOMMENDED ACTION MEASURES

### A. Strategies for Planning and Coordination.

Employment sites need to be located in a balanced community. They require a range of ancillary and support industries, public facilities and utilities, a well-housed labor force, and a healthy environment. Potential strategies include:

1. Develop a strategy for economic development recruitment and incentives to locate desired employers in Damascus and east Happy Valley. Identify desired employers (target industries) that, in addition to responding to market opportunities, also support community values such as enhancing environmental features and fitting within the compact nature and pedestrian scale intent for centers and mixed employment areas.
2. Plan city center, industrial and mixed employment areas to accommodate ancillary and support industries for desired employers.
3. Provide needed public facilities and utilities, including sewer, water, storm drainage, natural gas, electricity, telephone and fiber optics.
4. Develop a long range plan for future industrial and mixed employment areas in the future urban areas.
5. Assure that executive housing is appropriately provided, since it is so important to the development of business, especially office uses.

6. Develop partnerships between local jurisdictions and other districts and organizations to solve employment issues on a community, citywide and regional basis.
7. Consider using Tax Increment Financing for the following purposes:
  - Assembling key employment sites
  - Improving transportation access
  - Assuring the efficient extension of utilities
  - Marketing sites when served and ready for development

## **B. Zoning and development ordinance elements**

1. In both centers and mixed employment design type areas, establish standards to achieve the grid street pattern and high FARs without undermining the ability for retail and office to be feasible.
2. Establish standards for locating retail uses in mixed employment and industrial design type areas. Issues to be addressed in the development standards should include:
  - Uses should include ancillary and support businesses. Large format retail, freeway oriented retail uses or other uses primarily serving the residential community and intended to be located in the city center or neighborhood centers should be excluded from mixed employment and industrial areas.
  - Location and access of retail in relation to employment
  - Orientation to streets and pedestrian ways
  - Building materials and design
  - Landscaping or streetscaping
3. Require on-street and other forms of shared parking, especially in centers.
4. Develop and adopt green development practices for industrial and mixed employment areas and centers. As part of this:
  - a. Develop and adopt standards for pervious parking materials. Use caution and flexibility in attempting to meet the overall impervious surface objective in employment areas. Industrial and mixed employment uses have high impervious surface ratios; code requirements need to incorporate the needs of business.
  - b. Carefully allow adjustments to setbacks for riparian corridors in order to accommodate centers and industrial design type needs.

## **C. Strategically plan for the desired relationship between land uses and transportation**

1. Plan for phasing of development. Transportation improvements needed to support desired development in the city center and employment areas will be built over a 20+ year period. The City of Damascus should plan for development to occur in conjunction with needed transportation improvements.
2. Coordinate the city center master plan with the design and location of the parkway. Work with the limited access parkway planning process to assure that the parkway access points are designed and located to best serve the city center and industrial areas. Modify the city center master plan if needed to coordinate with the parkway alignment and access points.

#### **D. Other economic development ideas to explore:**

1. Consider promoting tourism in Damascus as a gateway to the Mt. Hood recreation area.
2. Enhance the relationship between Clackamas Industrial Area, the Clackamas Regional Center and the Happy Valley and Damascus areas' industrial sites and centers.
3. Allow nursery and farming as outright allowed uses within the Industrial Areas
4. The City of Damascus should review the appropriateness of the Industrial designation along Telford Road, south of the Conservation area.

#### **E. Strategies for Land Banking and Assembly of Land for Employment Sites.**

Many sites in the Industrial and Mixed Employment areas will require aggregation to support the industries that require large parcels. Closely related is the need to retain existing large parcels and those which have been aggregated into large parcels (land banking). Some tools for land banking and land assembly include:


1. Develop a strategy to preserve employment areas for employment uses, and test the viability of the strategy in the marketplace. The preservation strategy would include preservation of large parcels and developing a list of prohibited uses. Examples of potential prohibited uses are mini-storage facilities and large format retail.
2. Establish (an) urban renewal district(s) and develop (an) urban renewal plan(s). State guidelines are designed to allow Urban Renewal programs to participate in many activities to resolve "blighting" influences, including land assembly. Urban Renewal project areas have the ability to raise funds through Tax Increment Financing (TIF).
3. Develop a plan that evaluates and overcomes identified obstacles regarding the feasibility of converting residential subdivisions (e.g. WyEast and 252<sup>nd</sup> Ave) to industrial, employment or commercial uses. Consider programs to support conversion from residential to other uses, such as subsidies for site consolidation if needed, development phasing, and a program to work with residents and ease the transition.
4. Other tools can be used to consolidate sites that have been used in a limited way in the Portland metropolitan area to prevent parcelization or require aggregation of parcels:
  - Zoning overlays have been used successfully in Hillsboro to require specified minimum parcel sizes in areas targeted for certain uses.
  - Minimum lot sizes for zoning districts have been successfully used to prevent parcelization below a specified level, and to a limited extent, to encourage private developers to aggregate parcels before they can develop property.
  - The City of Tualatin was successful in holding a large parcel by taking an option to purchase a large site, then re-selling to larger users.
5. Early planning and coordination should balance the location of jobs with the need for schools. Because school districts purchase sites long before development occurs, they are currently identifying potential future school sites. If responsible jurisdictions determine early on where land uses will be located, school sites can be purchased while land values are still relatively low.

## **F. Detailed planning work needed for Industrial areas, including RSIA (Regionally Significant Industrial Area) opportunity sites.**

1. Designate appropriate locations within the “RSIA Opportunity Sites” as Regionally Significant Industrial Areas. (See Employment Map 1: RSIA Opportunity Sites)
2. Work with industrial companies located outside Damascus to determine their needs for lot sizes and configurations, access, and adjacent activities. Base the zoning ordinance standards on this, as well as RSIA, state and regional requirements.
3. Develop strategies for preserving and consolidating large parcels in RSIA and industrial areas.
4. Strategically plan the transportation system and industrial areas to route industrial truck traffic away from the arterial streets that primarily serve residential areas and the city center. Provide for the most direct access from freeway.

## **G. Detailed planning work needed for Mixed Employment areas.**

1. Office and institutional uses. Consider office and institutional uses and determine which ones should be focused in the city center and which located in the Mixed Employment areas and which may serve as good transitional uses where centers and Mixed Employment areas are adjacent.. Identify concerns for or about these uses and address them in the zoning ordinances for these areas.
  - Address the need for visibility and access
  - Assure high FARs without undermining the feasibility of office and institutional uses.
  - Develop strategies to intensify uses over time.
2. Retail uses. Develop a strategy to assure that retail uses in the mixed employment areas are primarily business services uses, and not freeway oriented retail uses or other uses primarily serving the residential community and intended to be located in the city center or neighborhood centers. One potential strategy is to allow retail only as part of mixed-use buildings in the Mixed Employment district.
3. Streets: Develop a grid street pattern meeting the design elements desired for mixed employment areas, including maximum block size.
4. Residential areas: Plan Mixed Employment areas to have the amenities, including parks and services, needed to support the desirable residential areas intended to be located there.

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|  | <p><b>SECTION 3.</b><br/> <b>HOUSING</b><br/> <b>IMPLEMENTATION STRATEGIES</b></p> |
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**GOAL C:** *Provide housing choices for people of all income levels and life stages.*

PRINCIPLES – We will plan for:

- C1. A full range of integrated housing types, affordability, and tenancy preferences in every neighborhood that will fulfill state and regional housing requirements and allow people of all ages and incomes to live in every neighborhood.
  
- C.2. A range of housing types that allows community members to continue to live locally throughout all of life’s stages (i.e. entry level worker, student, young professional, retired, elderly).

## **RECOMMENDED ACTION MEASURES**

### **A. Housing Variety**

- 1. Develop Comprehensive Plan and Zoning Ordinances language using the Design Types and Land Use Types Summary document as a guide. Most of the residential design types applied in the plan area include a variety of housing types. The intent is to provide a variety of household types within each neighborhood.

### **B. Housing Affordability**

Attached single-family and multi-family housing comprises slightly over half of all housing distributed throughout the plan area. This meets the State metropolitan housing rule, but will not necessarily assure affordability. Other tools and strategies, including but not limited to the following, should be considered:

- 1. Work with groups such as the Clackamas County Community Development Division and local non-profit housing providers to create a plan that identifies appropriate strategies and implementation measures to promote affordable housing in the Damascus / Boring Concept Plan area.
  
- 2. Plan to support the development of affordable housing through tools such as:
  - System Development Charges (SDC) subsidy or deferral
  - Land-banking
  - Use publicly-owned, surplus land for below-market rate housing.


- Work with affordable housing nonprofits and/or affordable housing advocates to develop a program for providing affordable housing that the market won't provide.
  - Tie density bonuses to housing affordability.
  - Life-cycle housing
3. Reduce impervious surfaces and housing costs by requiring shared and on-street parking.
  4. Promote the development of accessory dwelling units (ADU) to increase housing variety and affordability
    - Provide a permit cost discount for ADUs.
    - Provide support and incentives during the building permit review process to design housing to eventually accommodate accessory dwelling units wherever possible, even if it is not complete at the time of original construction. This would include "roughing in" structural, plumbing and electrical necessities for an ADU that will save expense at a later date.

### **C. Housing design that contributes to safe, walkable neighborhoods**

Residential design can greatly contribute to or detract from neighborhood safety and walkability. Consider creating principles and strategies to ensure that the scale and design of dwellings, especially in the high and moderate density zoning districts, contribute to the compact, pedestrian oriented and smaller scale character of both cities.

Cities should specifically consider the following tools:

1. Develop standards for multi family residences to insure that site design, scale, materials, and design of all components of the development contribute to safe, walkable neighborhoods
2. Adopt design standards for all residential development to support safety and walkable neighborhood streets. These could include, but are not limited to the following:
  - Proximity to the street, including maximum setbacks and street orientation.
  - Recessed garages and narrower driveways or alleyway access.
  - Limit blank walls facing streets or pedestrian ways
  - Adopt standards to implement "Identity" or "Style" that address scale, variety, materials, compatibility with natural areas, etc.

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|  <p><b>Damascus/<br/>Boring</b><br/>Concept Plan</p> | <p><b>SECTION 4.</b><br/><b>TRANSPORTATION</b><br/><b>IMPLEMENTATION STRATEGIES</b></p> |
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**GOAL D:** *Provide an effective transportation system that provides a range of travel options.*

**PRINCIPLES:**

- D1:** A coordinated land use and transportation system to support a wide range of convenient and attractive transportation choices, including cars, transit, walking, bicycling and other forms of personal conveyance.
- D2:** A transportation system that is safe for all modes of travel.
- D3:** A well-connected network of arterial and collector streets that adequately serves local travel needs and regional and intrastate access and freight mobility needs.
- D4:** A cost-effective, aesthetic and feasible transportation system.
- D5:** A transportation system designed and located to minimize impacts to natural resources while providing for circulation by all modes of travel.
- D6:** A range of street design types that reinforce a sense of community, leaves the mixed-use areas intact and minimizes impacts to neighborhoods to support community livability.
- D7:** An interconnected system of bicycle and pedestrian routes that directly connects to community destinations, with special pedestrian amenities on transit streets.
- D8:** Direct and convenient freight access from employment and industrial areas to regional transportation facilities to reduce the potential for traffic intrusions into neighborhoods and rural areas.
- D9:** A regional and community transit service in mixed-use areas and on key streets that is supported by street design, a mix of land uses and transit-supportive densities.
- D10:** A coordinated transportation system with existing neighboring cities and counties and future planning areas (i.e., Happy Valley, Pleasant Valley, Sandy and Springwater).

**RECOMMENDED ACTION MEASURES**

**A. Bicycle/Pedestrian/Trails System**

1. Develop a bicycle and pedestrian master plan to create interconnected routes for walking and biking, using **Figure 1** as a starting point. These routes should include on- and off-street paths to connect major activity centers such as residential areas, pedestrian districts, schools,

civic uses, transit stops, neighborhood centers, employment areas, and town centers, natural areas and the trail system. All proposed regional trail connections are shown as general locations and are not intended to be specific alignments. Precise alignments will be determined through future comprehensive planning and trail feasibility and engineering studies.

2. Establish bicycle and pedestrians design standards and to provide for safe crossings, and convenient and attractive bicycle and pedestrian access on all streets.
3. Provide a multi-use trail system to serve as important off-street bicycle and pedestrian connections to schools, parks, commercial areas and neighborhoods within the Damascus/Boring community, particularly in areas where streams limit street connectivity.
4. Develop a trail master plan that identifies regional and local connections as part of the multi-use trail system and establish multi-use trail design standards to locate and design trails to minimize impacts to natural areas. The master plan should also consider equestrian needs. See Metro's *Green Trails Guidelines* handbook for more detailed information on designing and locating trails. In addition, the following locational and development guidelines should be considered:
  - Provide trail connections between Damascus and Happy Valley, and between the new urban area and other communities (Portland, Gresham, Clackamas County).
  - Trails of all types should connect residential and employment areas to civic and community spaces (schools, parks, community centers, etc.).
  - Where appropriate, multi-use trails should connect residential areas with employment areas.
  - Trails should serve multiple purposes: recreation, transportation, education.
  - Trails should be part of the overall green system.
  - Where trails are located along stream corridors, the corridors should be wide enough to accommodate the trails without compromising the corridor's environmental qualities.
  - Adopt other development standards for trails – cross section design, surface materials, lighting, grade/accessibility
  - Equestrian needs should be considered in the design and location of trail connections.
5. Work with school and parks districts and transit service provider to identify and develop safe walking and biking routes to schools, parks and transit stops.
6. Develop right-of-way preservation, acquisition and operation and maintenance strategies for off-street trails.
7. Work with Metro to amend the Regional Transportation Plan (RTP) and Greenspaces Master Plan to reflect Damascus/Boring Concept Plan recommendations and implementation strategies, including:
  - Amend the RTP bike and pedestrian classification systems

- Incorporate regionally-significant transportation improvements and rough cost estimates
- Amend the RTP bike and pedestrian system maps to include regional trails with a transportation function
- Amend the Greenspaces Master Plan to include regional trails and parks.

## **B. Transit System**

1. Identify a transit service provider and mechanism for collecting transportation system development charges (SDCs) that provide for transit funding as development occurs.
2. Work with the transit service provider, TriMet, Happy Valley, Gresham and Portland to develop a transit master plan that complies with Section 6.4.10 of the Regional Transportation Plan and:
  - a. evaluates whether densities and development patterns would support regional transit service, and determines appropriate service types and levels, including the potential for future Bus Rapid Transit or other HCT service.
  - determines appropriate locations and design of transfer opportunities, major transit stops, bus stops, park-and-ride lots, and transit preferential treatments such as reserved bus lanes and signal pre-emption to enhance transit usage and public safety and to promote the smooth flow of traffic.
  - identifies high capacity transit route and right-of-way protection strategies and requirements, transit streets and implementation code to apply to development adjacent to transit stations and along designated transit corridors.
  - identifies a phasing and financing strategy that implements recommended community and regional transit service identified in Figure 2.
3. Work with transit service provider, employers and social service agencies' efforts to enhance access for elderly, economically disadvantaged, and people with disabilities.
4. Implement regional bus connections to the area as a starting point that are tied to development. Optimal routes to be selected through a future planning process with the community and TriMet/service provider that would take into account levels of development, key transfer points, roadway grades and other characteristics.
5. Work with Metro to amend the Regional Transportation Plan (RTP) to reflect Damascus/Boring Concept Plan recommendations and implementation strategies, including:
  - Amend the RTP transit service strategy map and Regional Public Transportation system map.

Figure 1. Regional Bike, Pedestrian and Trail Connections

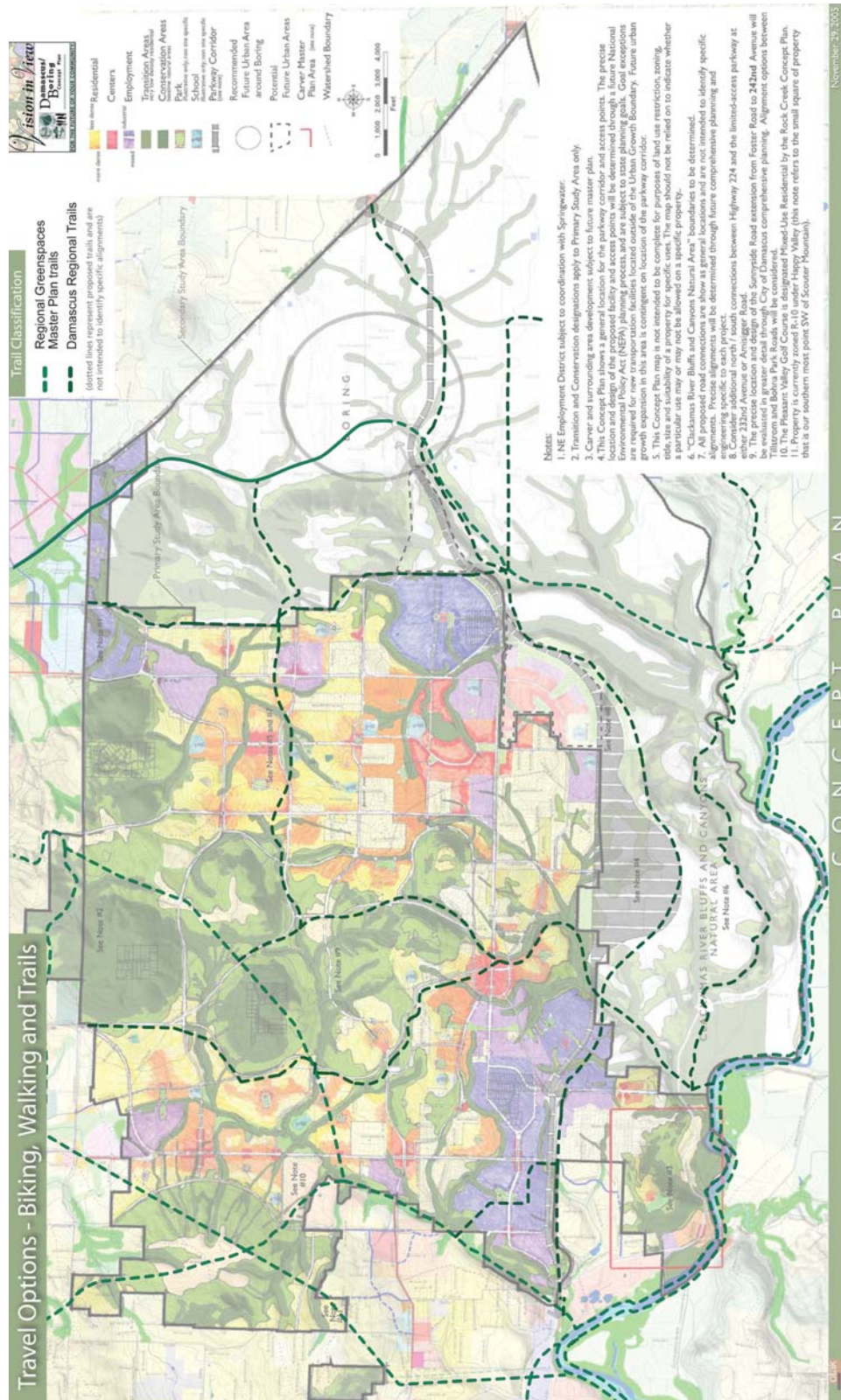
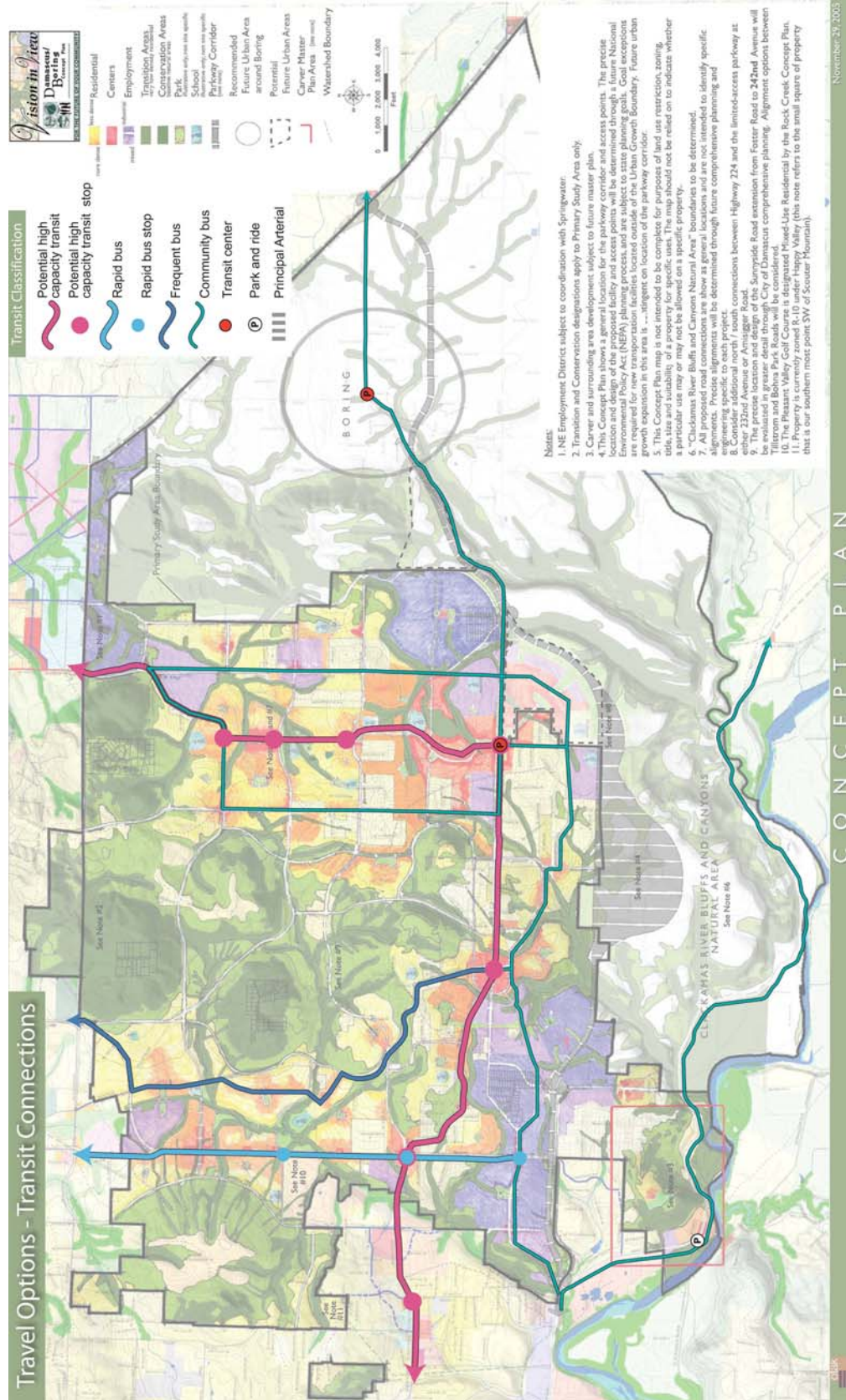


Figure 2. Regional and Community Transit Connections



## C. Motor Vehicle System

1. The Damascus/Boring Concept Plan map should serve as the basis for providing opportunities for freight and through-travel on arterial streets and for local access to community destinations on collectors, neighborhood connectors and local streets. All proposed road connections are shown as general locations and are not intended to be specific alignments. Precise alignments will be determined through future comprehensive planning and preliminary engineering specific to each project that will include opportunities for public involvement.
2. Develop a transportation system plan that:
  - a. Identifies needed transportation improvements to implement arterial and collector street system identified in Figure 3 and correct existing safety issues identified in Figure 4.
  - b. Evaluates alignment options and feasibility of the Royer Road connection to 232<sup>nd</sup> Avenue. Right-of-way exists, however steep grades make this connection difficult.
  - c. Evaluates alignment options for the 232<sup>nd</sup> Avenue and Tong Road connections to Highway 224. Both facilities have steep grades and poorly aligned intersections with Highway 224.
  - d. Evaluates alignment options between Bohna Park and Tillstrom roads for the Sunnyside Road extension from Foster Road to 242<sup>nd</sup> Avenue. The evaluation should consider the relative benefits and impacts to existing neighborhoods, city center access, natural resources (e.g. Rock Creek and tributaries, steep slopes) and the overall transportation system function.
  - e. Evaluates design and access management strategies for streamlining the 242<sup>nd</sup> Avenue to the US 26/Springwater interchange connection to ensure regional trips are directed to the US 26/Springwater interchange rather than through Gresham neighborhoods and the downtown area.
  - f. Includes a capital improvement and phasing plan that identifies, prioritizes and adequately funds transportation improvements, right-of-way protection and operation and maintenance needs.
  - g. Includes a future local street plan and street connectivity standards that meet regional connectivity requirements as part of the Transportation System element of the local comprehensive plan to ensure the development and completion of logical and continuous local street patterns within residential and mixed-use areas as development occurs. The plan and standards shall comply with Regional Transportation Plan Section 6.4.5, including, but not limited to, the following:
    1. identify all contiguous areas of vacant and redevelopable parcels of five or more acres planned or zoned for residential or mixed-use development and prepare a conceptual new streets plan map.
    2. require new residential or mixed-use development involving construction of new street(s) to provide a site plan that provides full street connections with spacing of no more than 530 feet between connections except where prevented by barriers (e.g, pre-existing development, topography and environmental constraints). Where streets

must cross water features identified in Title 3 of the Urban Growth Management Functional Plan (UGMFP), provide crossings at an average spacing of 800 to 1,200 feet, unless habitat quality or length of crossing prevents a full street connection.

3. identify opportunities to incrementally extend streets from nearby areas.
  4. limit the use of cul-de-sac designs and other closed end street systems to situations where barriers such as existing development, topography and environmental constraints prevent full street connections, and extend closed-end streets where possible.
  5. provide bicycle and pedestrian accessways where full street connections cannot be provided.
  6. provide off-street bike and pedestrian connections where needed to link major community destinations, such as the town center, transit center, recreation areas and office, commercial and employment centers.
  7. amend design codes, standards and plans to allow consideration of the stream crossing design guidelines contained in Metro's *Green Streets: Innovative Solutions for Stormwater and Stream Crossings* handbook.
- h. Includes a parking management plan that encourages:
1. efficient use of on-street parking to help reduce off-street parking needs
  2. shared parking agreements to reduce the size and number of parking lots
  3. shared driveways between adjacent development projects
- i. Includes a transportation demand management element to:
1. Addresses the 2040 Modal Targets identified in Section 6.4.6 of the Regional Transportation Plan.
  2. Educate business groups, employees, and residents about trip reduction strategies and work with business groups, residents, and employees to develop and implement travel demand management programs, such as carpool matching, vanpool matching, flexible work hours, transit subsidies, parking management, bikes on transit and telecommuting to reduce peak-hour single occupant vehicle trips.
3. Work with emergency service providers to designate emergency access routes.
4. Work with Metro, ODOT, DLCD, FHWA, TriMet, Multnomah County, Clackamas County, Happy Valley, Portland and Gresham to amend local, regional, state transportation plans to plan for a new limited-access principal arterial connection with a parkway design to serve as the long-term through traffic and freight connection between I-205 and US 26. Use the draft purpose and need statement and goals and objectives included in the Transportation Appendix (TR 3) as a starting point.
- a. The primary objectives of the parkway design, general corridor location and general access locations are to:
1. relieve area congestion and provide adequate capacity and speeds to serve through traffic and freight movement between I-205 and US 26;

2. minimize diversion of through traffic and freight trucks to Highway 212 and other local arterials in Damascus and Boring;
  3. improve safety for all modes of travel along the corridor;
  4. minimize environmental and community impacts through location and context sensitive design to minimize noise and horizontal/vertical curvatures of the facility;
  5. provide regional access to future downtown Damascus;
  6. provide regional freight access to industrial areas in Damascus and Happy Valley; and
  7. provide an aesthetic, context sensitive design that blends in with the natural surroundings, reinforces the urban design of the city center and community, showcases natural areas and panoramic views of the mountains, streams and forests and provides a green transition from the urban area to open space throughout the corridor.
- b. The facility would generally be located as shown in **Figure 3**:
- *Segment 1*: North of Highway 212 from Rock Creek junction to Tong Road
  - *Segment 2*: South of Highway 212 from Tong Road to 257<sup>th</sup> Avenue
  - *Segment 3*: Along existing Highway 212, between 257<sup>th</sup> Avenue and 272<sup>nd</sup> Avenue (a new 2-lane collector that connects Damascus and Boring would be located to the north)
  - *Segment 4*: South of Highway 212 and the Deep Creek tributaries in Boring
- c. Access to the limited-access parkway is to be provided by grade-separated interchanges or other intersection designs in the following general locations as shown in Figure 3:
- *Access 1*: North of Highway 212 at Rock Creek junction
  - *Access 2*: North of Highway 212 at Tong Road
  - *Access 3*: North of Highway 212 near 257<sup>th</sup> Avenue
  - *Access 4*: Upgraded full interchange at US 26 in Boring.
- d. No interchange access would be provided in Boring, except where the proposed parkway connects to US 26 because the area is located outside of the urban growth boundary. Highway 212 access to US 26 and the proposed parkway would be combined at this location, and include continued access across US 26 to Compton Road. If the Highway 224 corridor refinement plan recommends an additional access to the limited-access parkway to address motor vehicle safety and capacity issues in the corridor from the Highway 212/Rock Creek junction to Tong Road, the addition of an access point at Amisigger Road or 232<sup>nd</sup> Avenue should be evaluated.
- e. Determination of the general location of the parkway in Boring should be coordinated with the Boring Village plan and take into consideration relative benefits and impacts to existing neighborhoods, Boring center access and

downtown land use plan, natural resources (e.g. Deep Creek and tributaries) and the overall transportation system function.

- f. This corridor includes rural areas outside the Metro area urban growth boundary. Future corridor refinement planning for the Sunrise Corridor should also address relevant statewide planning goal exception requirements pursuant to Section 660.012.0070 of the state transportation planning rule for the portions of the principal arterial connection located outside the urban growth boundary. The refinement planning process should make recommendations for corridor preservation or right-of-way acquisition strategies to ensure that final project recommendations are not precluded by land use decisions within the corridor.

Figure 3. Existing Transportation Issues

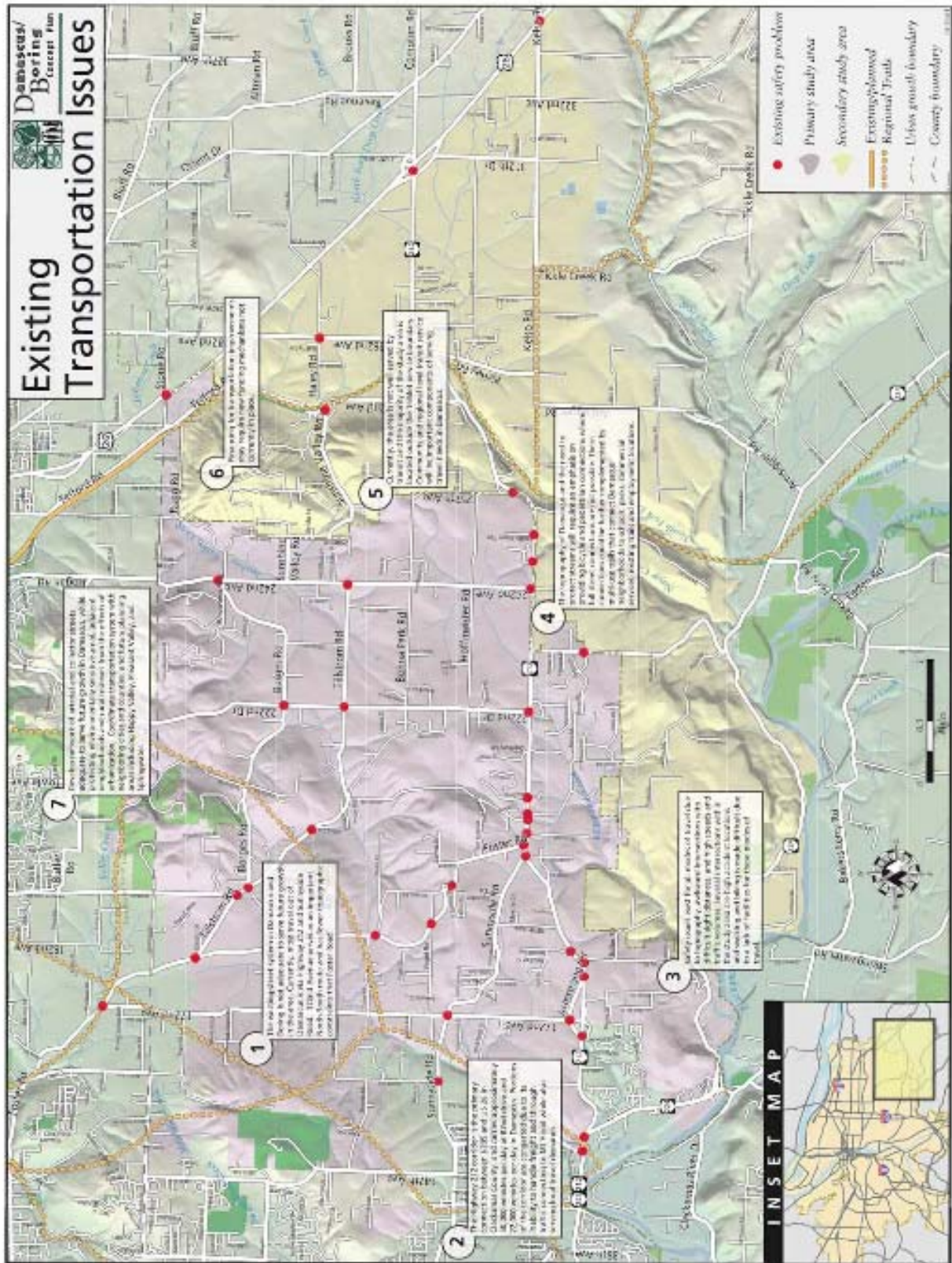
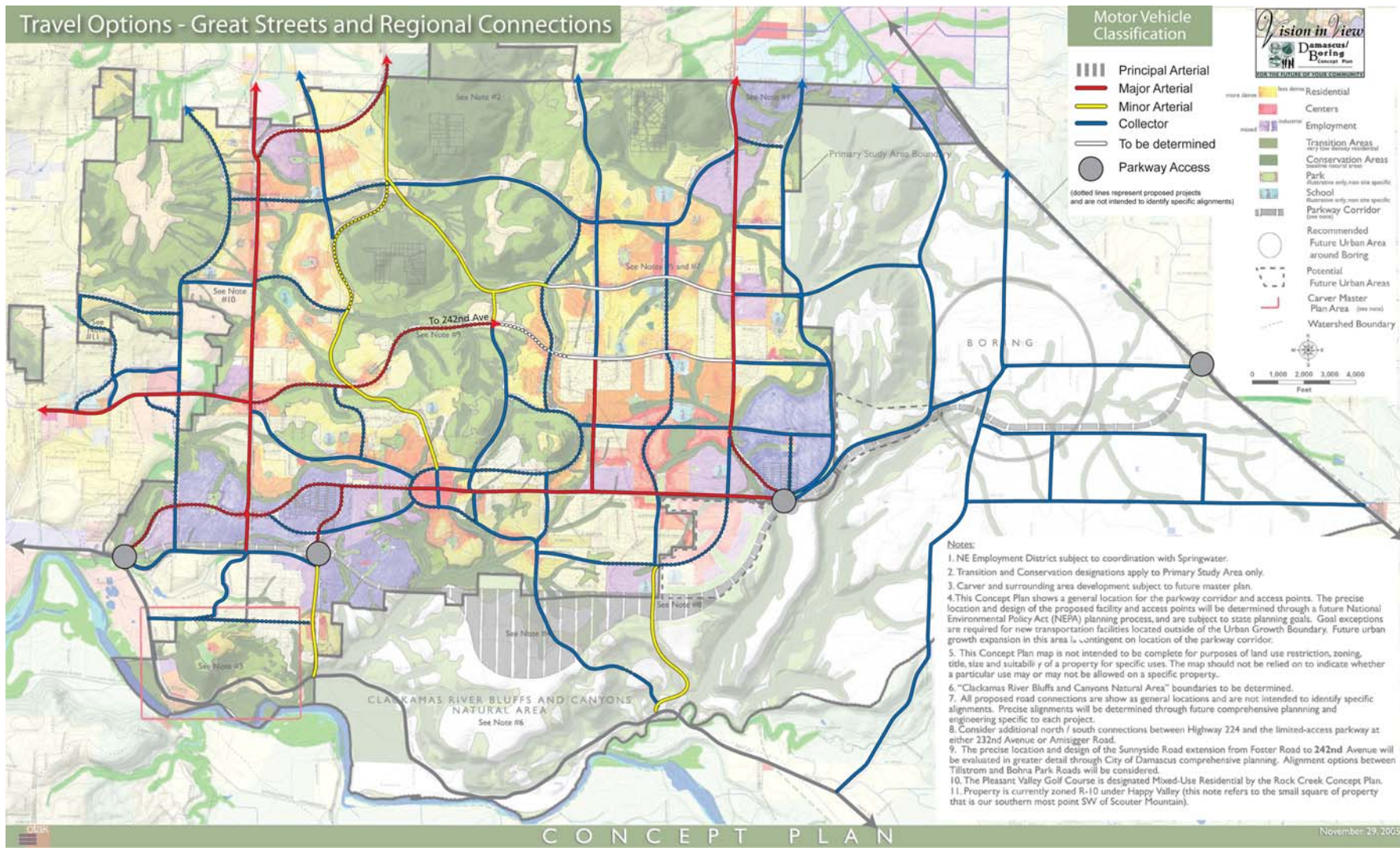


Figure 4. Great Streets and Regional Connections



5. Address the following design elements for the limited-access parkway through a future NEPA review process and during preliminary engineering design:
  - a. Evaluate adequacy and compatibility of a 45 or 55 mph posted speed limited-access principal arterial connection with the proposed Sunrise Project, local comprehensive plan implementation of the Damascus/Boring Concept Plan, regional through traffic and freight mobility and impacts on rural lands outside the urban growth boundary.
  - b. Evaluate the location and functionality of grade-separated and other intersection designs that emphasize mobility on the principal arterial connection. These access points will serve both as gateways to the community and as freight access points to the employment areas in Damascus.
  - c. Coordinate the design and facility transition between the Sunrise Project and the Damascus/Boring Concept Plan limited-access principal arterial connection.
  - d. Provide no direct access along the principal arterial connection except at general locations identified on plan map. Local access/circulation connections to future urban lands, the proposed Clackamas River Bluffs and Canyon area and wildlife crossings should be integrated into the design via underpasses or overpasses that also provide pedestrian and bicycle access.
  - e. Provide landscaped median and buffers in most, but not all locations (e.g., where right-of-way should be minimized to limit impacts to natural resources) in a manner that provides adequate and appropriate level of traffic safety for all users of the facility.
  - f. Provide regional multi-use trail connection along transportation corridor. Local and regional trail connections to the Clackamas River Bluffs and Canyons Natural area should be integrated into the design via underpasses or overpasses.
6. Address the following phasing strategies for the limited-access parkway through a future NEPA review process:
  - a. Develop a phasing strategy for construction of the principal arterial connection and access points to occur in coordination with construction of arterial and collector network system serving the area to ensure the arterial and collector system establishes the framework for land development in the area. This phasing strategy should also recognize local, regional, state and federal fiscal realities. Phasing should avoid premature construction that could unintentionally increase urban pressures in rural reserves to the south and east of Damascus.
  - b. Consider phasing strategies as identified in the Regional Transportation Plan.
  - c. Develop a concurrent plan to transition the function of the existing Highway 212 facility into a major arterial and collector function as shown on the plan map, with appropriate access management and intersection treatments identified.
  - d. Develop and evaluate a peak period pricing alternative and along with other feasible alternatives during the development of a draft Environmental Impact Statement

(DEIS).<sup>2</sup> The analysis should consider financial feasibility, travel performance (including traveler costs and benefits), environmental, equity and neighborhood effects and public acceptance.

7. Develop right-of-way preservation, acquisition and access management strategies for all new roads and upgrades to existing roads, including the limited-access parkway, 242nd Avenue, 222nd Avenue, 172nd Avenue, Highway 212, and the extension of Sunnyside Road in local, regional and state plans. These strategies should include:
  - a. Develop and implement a public facility and capital improvement plan that identifies, prioritizes and adequately funds transportation improvement, right-of-way protection and operation and maintenance needs.
  - b. Consider system development charges, traffic impact fees, local improvement district fees, parking fees, street utility fees, economic development grants, National Scenic Byways program and other traditional and non-traditional funding mechanisms to help pay for transportation improvements, including transit and green streets.
  - c. Apply for federal, state and regional funds through the Metropolitan Transportation Improvement Program (MTIP) and State Transportation Improvement Program for projects of regional and statewide significance.
  - d. Work with local, state and regional elected officials to secure State or federal direct appropriation.
  - e. Encourage creative partnerships (e.g., federal, state, regional, multiple jurisdiction, private) to fund transportation improvements, including green streets.
  - f. Consider the adoption of a concurrency policy to ensure needed transportation projects and other infrastructure are in place prior to development occurring.
  - g. Purchase of land by public agencies along the principal arterial corridor and access locations to preserve the needed right-of-way, significant habitats and historic vistas and to control development and its impacts near interchanges. State law currently restricts ODOT's authority to purchase land only for highway purposes.<sup>3</sup> ODOT would need additional statutory authority to obtain land for other, non-transportation purposes. Purchase by other state agencies such as the State Parks department would not require new statutory authority, but would require a budget appropriation by the Legislature. Local and regional governments also would need to obtain voter-approved funding such as bond measures or other financing mechanisms.
  - h. Develop a green corridor plan for the major transportation facility (new principal arterial connection) that is approved by the state, regional and local agencies. Metro has entered into IGAs with counties and neighboring cities like Sandy and Canby to designate rural reserves with the specific purpose of establishing "permanent" green corridors between the urban areas. This strategy may be more successful if used in combination with public acquisition of lands adjacent to the major transportation corridor and access points.

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<sup>2</sup> State and regional policies require that tolling of new roadway capacity be considered as a means to manage travel demand as well as fund the costs of construction and maintenance of the proposed project.

<sup>3</sup> "Methods of Managing the Land Use Impacts of the Sunrise Freeway" (July 23, 1999) prepared by Parsons Brinckerhoff for the Oregon Department of Transportation, page 34-35.

- i. Develop cooperative funding agreements between state agencies such as ODOT, Division of State Lands, Parks and Fish and Wildlife; Metro Transportation and Greenspaces departments; and local agencies such as city and county transportation and parks departments.<sup>4</sup>
  - j. Use conservation and scenic highway easements (e.g., agreements between property owners and a public agency or trust) to permanently limit a property's uses along the major transportation corridor, at access points (e.g., interchanges) or along local roads connecting to an access point/ interchange. Easements can be used to protect farms, forests, wildlife habitat, scenic views and recreation access. The affected property remains in the original ownership, and the easement could apply to some or all of the property.
  - k. Develop interchange area management plans (IAMP) for all principal arterial access points that are approved by the state, regional and local agencies. An IAMP is required no later than the time an interchange is designed for all new interchanges.<sup>5</sup>
  - l. Use interchange zoning (as a base zone and/or overlay zone) to regulate the type of development that may take place at an interchange or along arterials connecting to the interchange.<sup>6</sup>
  - m. Use access management and site design standards for interchange areas to preserve traffic efficiency and function, while ensuring safety by all modes of travel. The standards should include guidelines for pedestrian and bicycle access, access restrictions, gateway treatments at interchanges, use of medians, landscaping minimums and other design considerations.
8. Work with Metro, ODOT, DLCD, FHWA, TriMet, Multnomah County, Clackamas County, Happy Valley, Portland and Gresham to plan for the following major transportation facilities through a future NEPA process as recommended in Table 1.

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<sup>4</sup> In the 1950's and 60's, Oregon State Parks were acquired as part of the highway funding program as a way to preserve key open spaces, highway access points and vistas related to state highways. In 1967, Boulder, Colorado passed a sales tax for the purpose of land acquisition and management of open space. More than 18,600 acres have been purchased to date. ODOT conservation-related acquisition and management efforts occurred on the Umpqua River Highway where viewpoints, turnouts and campgrounds provide scenic and recreational opportunities.

<sup>5</sup> Oregon Administrative Rule 734-051 (Chapter 734: Department of Transportation Highway Division, Division 51: Highway approaches, Access Control, Spacing Standards and Medians), Oregon Department of Transportation.

<sup>6</sup> Overlay zones have been used throughout the U.S. and Oregon for many different purposes, although traditionally for environmental protection. Many Oregon communities have interchange development zones that are base zones, without additional overlays. The City of Salem created an overlay zone to help establish a gateway to the City at the Chemewa/I-5 interchange. An interchange zone with standards governing access, trip generation and other elements would be implemented through local plans.

**Table 1. Summary of Major Transportation Facilities and Type of NEPA Process Needed**

| Major Transportation Facility   | Type of Improvement  | Type of NEPA process needed    |
|---|--|--------------------------------|
| Sunrise Parkway   | Construction of new 4-lane limited access principal arterial                           | Environmental Impact Statement |
| Sunnyside Road Extension<br><ul style="list-style-type: none"> <li>172<sup>nd</sup> Avenue to 242<sup>nd</sup> Avenue</li> </ul>  | Construction of new 4-lane major arterial  | Environmental Impact Statement |
| Damascus Boulevard<br><ul style="list-style-type: none"> <li>Highway 212 extension from Rock Creek junction to existing Highway 212/Foster Road</li> <li>Sunnyside Road to 222<sup>nd</sup> Avenue</li> </ul> | Construction of new 4-lane major arterial and widening existing Highway 212 to 4 lanes | Environmental Impact Statement |
| 172 <sup>nd</sup> Avenue<br><ul style="list-style-type: none"> <li>Highway 212 to 190<sup>th</sup> Avenue</li> </ul>  | Widening of existing street to 4-lane major arterial                                   | Environmental Assessment       |
| 222 <sup>nd</sup> Avenue<br><ul style="list-style-type: none"> <li>Highway 212 to Sunnyside Road extension</li> </ul>   | Widening of existing street to 4-lane major arterial                                   | Environmental Assessment       |
| 242 <sup>nd</sup> Avenue<br><ul style="list-style-type: none"> <li>Highway 212 to Rugg Road</li> </ul>  | Widening of existing street to 4-lane major arterial                                   | Environmental Assessment       |

9. Work with Metro to amend the Regional Transportation Plan to reflect Damascus/Boring Concept Plan recommendations and implementation strategies, including:
  - a. Amend the RTP motor vehicle classification system
  - b. Amend Sunrise corridor refinement planning requirements to address implementation direction for the limited-access principal arterial connection, including the concept plan vision for a “parkway” design. The refinement plan guidance should be expanded to include elements described in Sections 5, 6 and 7 of this section and:
    - Identify needed state goal exceptions
    - Identify needed design exceptions
  - c. Amend Section 6.7.5 to add a new Type II corridor refinement plan to evaluate Highway 224 from Rock Creek junction to Amisigger Road. Existing Highway 224 from the Barton area west to the Rock Creek junction with Highway 212 has unsafe curves and narrow shoulders, and topography significantly limits widening of this corridor. In addition, Highway 224 from the Highway 212/Rock Creek junction to the Carver Bridge area significantly exceeds the four-lane capacity assumed in this section due to forecasted growth assumed for the area south of the Clackamas River and east of Oregon City. The limited number of connections across the Clackamas River directs a significant amount of traffic to the Carver bridge crossing. The amount of traffic forecasted in this area will negatively impact the small village vision for this area and should be analyzed in more detail in coordination with the Carver Master Plan, the Carver bridge replacement project, Sunrise Project, future planning for the Sunrise Corridor limited-access parkway and future urban growth boundary decisions. This corridor also includes rural areas

- outside the Metro area urban growth boundary. Impacts on rural resources in these areas will need to be addressed pursuant to Section 660.012.0070 of the state transportation planning rule. Transportation solutions evaluated in this planning effort should address the following:
1. long-term capacity improvements needed to address future travel demand in the Highway 224 corridor if future urbanization occurs south of the Clackamas River and east of Oregon City, including the need for additional crossings of the Clackamas River. This should be more fully evaluated through urban area planning that responds to future urban growth boundary decisions and the next Regional Transportation Plan update;
  2. consider potential land use impacts on long-term vision developed through Carver Master Plan process;
  3. compatibility with the design and location of the Carver bridge replacement project;
  4. facilities and street design elements to improve bicycle, pedestrian and transit safety and access;
  5. motor vehicle safety and capacity issues in Carver and through the “Carver Curves (between the Carver bridge and Tong Road);”
  6. look at additional north/south connections between Highway 224 and the limited-access parkway at either 232<sup>nd</sup> Avenue/Royer Road or Amisigger Road/Richey Road, evaluating the land use, environmental and transportation benefits and impacts of potential access points in coordination with the Sunrise Corridor refinement plan.
- d. Amend Powell/Foster Corridor Phase 2 corridor refinement planning requirements to address the following outstanding issues:
    - develop a long-term strategy to protect the 162<sup>nd</sup> Avenue and Barbara Welch Road corridors from cut-through traffic and determine the appropriate cross section(s) to improve motor vehicle, bicycle and pedestrian safety and access.
    - evaluate the 222<sup>nd</sup> Avenue corridor north of Borges Road to develop a long-term strategy to protect the corridor from cut-through traffic and determine the appropriate cross section to accommodate travel demand and improve motor vehicle, bicycle and pedestrian safety and access. The corridor is constrained by significant topographic and environmental features and travels through Gresham neighborhoods to the north, limiting capacity increases to adequately accommodate projected travel demand.
  - e. Amend regional street design policies and guidelines to incorporate a “Parkway” design to the Throughway design types.
  - f. Incorporate regionally-significant transportation improvements and rough cost estimates
10. Work with Metro, ODOT, DLCD, FHWA, TriMet, Multnomah County, Clackamas County, Happy Valley, Portland and Gresham to complete corridor refinement plans identified in the Regional Transportation Plan.

## D. Freight System

1. Develop a transportation system plan that includes a freight master plan element that identifies local and regional freight routes and strategies to ensure direct and convenient access from employment and industrial areas to regional transportation facilities.
2. Work with Metro to amend the Regional Transportation Plan to reflect Damascus/Boring Concept Plan recommendations and implementation strategies, including:
  - a. Amend the RTP freight classification system map.

## E. Street Design

1. Establish street design standards that respect the characteristics of the surrounding land uses, natural features, and other community amenities as described in Metro publications *Creating Livable Streets* and *Green Streets: Innovative Solutions for Stormwater and Stream Crossings*. Design all to support adjacent land uses, accommodate pedestrians and bicyclists and, where appropriate, include green streets design elements that help minimize stormwater runoff, using Table 2 as a guide. The street design standards should provide for:
  - a. the motor vehicle, freight, bicycle, pedestrian and transit functional classification of the street
  - b. planting and preservation of trees in the street right-of-ways
  - c. continuous sidewalks along both sides of all arterial, collector, and local streets. Sidewalks should connect to side streets and adjacent sidewalks and buildings. Pervious sidewalk treatments should be considered.
  - d. landscaped buffer separating travel lanes from sidewalks
  - e. direct and logical pedestrian crossings at transit stops and marked crossings at major transit stops.
  - f. short and direct public right-of-way routes to connect residential uses with nearby commercial services, schools, parks and other neighborhood facilities.
  - g. street design elements that discourage traffic infiltration and excessive speeds on local streets, such as curb extensions, on-street parking, wider sidewalks and narrowed travel lanes.
  - h. secure bicycle storage facilities such as bicycle racks and other park and lock accommodations at major destination points including the town center, transit center, recreation areas and office, commercial and employment centers.
  - i. the minimum of impervious area when developing new streets and parking lots and utilizing the natural drainage system where practical.
  - j. designing bridges to serve as civic gateways or focal points in the community and constructing bridges across streams where a span exceeds 15 feet and locate bridge abutments outside the stream channel.
  - k. locating road and multi-use path stream crossing alignments to have the lowest level of impact on a stream. Locational considerations should include crossings perpendicular to the stream and along narrow stream segments. Trail crossings should consider the needs of pedestrian and bicycle travel and, where appropriate, equestrians.

1. Consideration of narrow street design alternatives. For local streets, no more than 46 feet of total right-of-way, including pavement widths of no more than 28 feet, curb-face to curb-face, sidewalk widths of at least five feet and landscaped pedestrian buffer strips that include street trees. Refer to *Neighborhood Street Design Guidelines: An Oregon Guide to Reducing Street Widths* (November 2000) for more information.
2. Work with Metro to amend the Regional Transportation Plan (RTP) to reflect Damascus/Boring Concept Plan recommendations and implementation strategies, including:
  - a. Amend the RTP street design classification system map to add a Parkway design type and reflect the proposed designations in Table 2 as applied to the conceptual street system.

**Table 2. Damascus/Boring Concept Plan Street Design Guidelines**

| Regional Motor Vehicle Functional Classification | Regional Street Design Classification | Design Elements  | Number of travel lanes and posted speed                   | Trip Type             |
|--|---------------------------------------|--|---|-----------------------|
| Throughway /Principal Arterial                   | Regional Parkway                      | <b>140' to 320' ROW</b><br>12-14' multi-use trail<br>12' travel lanes<br>24' - 76' median<br>10' outside emergency breakdown lane<br>12' -100' landscaped buffer | 4 lanes with grade separated intersections<br>45 – 55 mph | Interstate / regional |
| Major arterial                                   | Regional boulevard (in centers)       | <b>110' ROW</b><br>10' – 12' sidewalks<br>6' bike lanes<br>11' travel lanes<br>10-14' median<br>7'-8' on-street parking with tree planters                       | 4 lanes with turn lanes<br>20-25 mph                      | Regional              |
| Major arterial                                   | Regional street (outside of centers)  | <b>100' ROW</b><br>6' sidewalks<br>6' bike lanes<br>12' travel lanes<br>10-14' median<br>5' - 8' landscaped buffer   | 4 lanes with turn lanes<br>35 mph                         | Regional              |
| Minor arterial                                   | Community boulevard (in centers)      | <b>60' - 80' ROW</b><br>10' - 12' sidewalks<br>5' bike lanes<br>11' travel lanes<br>10'-14' median in some cases<br>7'-8' on-street parking with tree planters   | 2 lanes with turn lanes<br>20-25 mph                      | City/<br>Regional     |
| Minor arterial                                   | Community street (outside of centers) | <b>70' – 80' ROW</b><br>6' – 10' sidewalks<br>5' bike lanes<br>11' – 12' travel lanes<br>7'-8' on-street parking with tree planters<br>10' median in some cases  | 2 lanes with turn lanes<br>35 mph                         | City/<br>Regional     |
| Collector  | Community boulevard (in centers)      | <b>60' - 80' ROW</b><br>10' - 12' sidewalks<br>5' bike lanes<br>11' travel lanes<br>10'-14' median in some cases<br>7'-8' on-street parking with tree planters   | 2 lanes with turn lanes<br>20-25 mph                      | City                  |
| Collector  | Community street (outside of centers) | <b>70' – 80' ROW</b><br>6' – 10' sidewalks<br>5' bike lanes<br>11' – 12' travel lanes<br>7'-8' on-street parking with tree planters<br>10' median in some cases  | 2 lanes with turn lanes<br>20-25 mph                      | City                  |
| Local  | Local                                 | <b>40' - 62' ROW</b><br>5' – 6' sidewalks or 12' multi-use path<br>11'-13' travel lanes<br>5' – 8' landscaped buffer<br>7'-8' on-street parking                  | 1-2 lanes<br>20-25 mph                                    | City                  |

Table Notes:

1. All streets include street trees to help reduce stormwater run-off. Other community benefits of street trees include improved air and water quality, enhanced pedestrian environment and reduced energy consumption. Tree well curb extensions should be designed to accommodate street sweepers.
2. Swales, infiltration trenches and linear detention basins are possible “green infrastructure” treatments in street designs that include landscaped buffers and medians. The intensity of land use affects the selection of stormwater and water quality design solutions. Available right of way width, traffic volume and speeds, preferred bicycle lane location and density of adjacent development will influence the extent to which permeable surfaces or curbless elements can be incorporated into the right-of-way design. For this reason, green streets design solutions can be adjusted to accommodate these uses.
3. Bike lane and sidewalk dimensions may be reduced when natural constraints exist. The need for and width of bike lanes will be determined based on traffic volumes and other safety considerations.





**GOAL E:** *Preserve, restore and/or enhance unique areas, natural features, fish and wildlife habitats and special places.*

**PRINCIPLES:**

- E1:** Protect, enhance and restore water and air quality by:
- Achieving low levels of effective impervious area and high levels of forest protection and restoration;
  - Protecting steep slopes and undeveloped floodplains;
  - Protecting, restoring and enhancing riparian and upland habitat;
  - Preserving, restoring and enhancing headwaters, streams and groundwater systems to achieve clean water;
  - Maximizing opportunities to protect and enhance natural watershed functions and processes;
  - Managing stormwater to protect hydrology and natural resources, and promote recycling.
- E2:** Protect, restore and enhance ecologically viable fish and wildlife habitat that will sustain the area's native biodiversity and maintain wildlife habitat connectivity within the community and to adjacent natural areas.
- E3:** Minimize development impacts on natural hazard areas including floodplains, landslide areas, and steep slopes.
- E4:** Provide an ecologically linked system of parks, natural areas, farmland, trails and open spaces for community, recreation and natural resource values within the Damascus/Boring area that is connected to the Clackamas River and other natural areas within the region, and ensure adequate coordination with adjacent communities.
- E5:** Minimize impacts on habitat connectivity, ecological viability, air and water quality, and scenic views when developing an interconnected street, bicycle, pedestrian and transit system.
- E6:** Maximize opportunities to protect open spaces that can provide multiple public benefits such as stormwater facilities, parks, trails and utilities without compromising hydrology, habitat, or ecological functions.
- E7:** Seek opportunities to incorporate green street designs and green development practices into the community design and infrastructure plans to minimize negative impacts of development on the environment.

## RECOMMENDED ACTION MEASURES

### A. Development Impact on Water and Air Quality

One of the most significant influences of urbanization on water quality is the replacement of the natural landscape with pavement and other water-impervious (impenetrable) material such as roads, parking lots, driveways, sidewalks, and rooftops. Increased levels of impervious surfaces interrupt the hydrologic (water) cycle, alter stream structure, and degrade the water that flows through streams. These changes to water storage and delivery harm the environment in a variety of ways, and are cumulative within watersheds.

Pavement and hard surfaces warm the air, also warming stream water and harming salmon and other wildlife. Research in the Pacific Northwest and in other regions indicates that when a watershed's imperviousness reaches approximately 10 percent, stream ecosystems and biotic communities show measurable evidence of degradation; adverse ecological effects typically become quite severe when imperviousness reaches approximately 25-30 percent. However, recent evidence suggests that degradation can occur at any level of imperviousness.

Trees also influence water and air quality. Trees store carbon, a key ingredient for global warming when released into the environment. Trees and plants take up carbon dioxide and release oxygen. The importance of retaining and restoring trees and native vegetation to watershed health cannot be overemphasized. Local research demonstrates the importance of trees throughout the watershed to stream health. Retaining and planting trees will increase evapotranspiration and filtration, helping deal with stormwater and pollution, and mitigating negative impacts from new development. Trees are especially important in the Damascus-Boring area, where clay soils dominate and limit stormwater infiltration directly through soils.

Trees also provide habitat. When there are more trees, there also tend to be more shrubs. This enhanced three-dimensional forest structure is valuable to wildlife. Larger forested patches tend to contain higher proportions of native plants, another plus for native insects, birds and mammals. Further, the more trees present in a neighborhood, the fewer starlings utilize the habitat. Trees along stream provide shade and woody debris for fish, keeping water temperatures cooler. Basically, more trees are better.

Thus, mitigating the effects of imperviousness, combined with maintaining relatively high levels of forest canopy cover to mimic natural conditions, are keys to maintaining or improving ecological conditions in an urban setting. The extent to which these practices are effectively employed will affect future stream conditions as the area becomes more urbanized.

1. Natural Resources Table 1 is a list of potential habitat-friendly development techniques that can be used to help minimize the impacts of urbanization. Metro is currently developing detailed educational materials and seminars to facilitate widespread use of these practices in the new urban area.

**Natural Resources Table 1**  
**Habitat-friendly development practices (from Metro’s Nature in Neighborhoods model ordinance).**

| <b>Impervious surfaces reduction, on-site stormwater management and other habitat-friendly practices</b>   |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. Minimize clearing and grading to the maximum extent possible.</li> <li>2. Amend disturbed soils to regain infiltration and stormwater storage capacity.</li> <li>3. Reduce lot sizes, setbacks and shape standards to allow for cluster development.</li> <li>4. Use Transfer of Development Rights (TDR) to preserve natural features.</li> <li>5. Reduce building footprint.</li> <li>6. Use minimal excavation foundation systems to reduce grading (e.g., pier, post or piling foundation).</li> <li>7. Use pervious paving for walkways and parking areas in place of traditional impervious materials.</li> <li>8. Reduce sidewalk width and grade them such that they drain to the front yard of a residential lot or retention area.</li> <li>9. Reduce impervious impacts of residential driveways by narrowing widths, moving access to the rear of the site, and using more pervious paving materials.</li> <li>10. Use shared driveways where appropriate.</li> <li>11. Reduce width of residential streets, depending on traffic and parking needs.</li> <li>12. Reduce street length, primarily in residential areas, by encouraging clustering and using curvilinear designs.</li> <li>13. Reduce cul-de-sac radii and use pervious vegetated islands in center to minimize impervious effects.</li> <li>14. Consider alternative paving materials within center of cul-de-sac and/or allow cul-de-sac to be utilized for truck maneuvering/loading to reduce need for wide loading areas on site.</li> <li>15. Eliminate redundant non-ADA sidewalks within a site (i.e., sidewalk to all entryways and/or to truck loading areas may be unnecessary for industrial developments).</li> <li>16. Design roads to incorporate stormwater management in right-of-ways where appropriate.</li> <li>17. Use multi-functional open drainage systems in lieu of more conventional curb-and-gutter systems.</li> <li>18. Minimize car spaces and stall dimensions, reduce parking ratios, use shared parking facilities and structured parking, and use pervious paving materials where appropriate to reduce impervious surfaces in parking lots.</li> <li>19. Use bioretention cells as rain gardens in landscaped parking lot islands to reduce runoff volume and filter pollutants.</li> </ol> | <ol style="list-style-type: none"> <li>20. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.</li> <li>21. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.</li> <li>22. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.</li> <li>23. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.</li> <li>24. Apply a treatment train approach to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.</li> <li>25. Minimize the number of stream crossings and place crossing perpendicular to stream channel if possible.</li> <li>26. Use bridge crossings rather than culverts wherever possible.</li> <li>27. If culverts are utilized, install slab, arch or box type culverts, preferably using bottomless designs that more closely mimic stream bottom habitat.</li> <li>28. Design stream crossings for fish passage with shelves and other design features to facilitate terrestrial wildlife passage.</li> <li>29. Allow narrow street right-of-ways through stream corridors whenever possible to reduce adverse impacts of transportation corridors.</li> <li>30. Extend vegetative cover through the wildlife crossing in the migratory route, along with sheltering areas.</li> <li>31. Carefully integrate fencing into the landscape to guide animals toward the crossings.</li> <li>32. Reduce light-spill off into HCA from development.</li> <li>33. Use native plants throughout the development (not just in HCA).</li> <li>34. Donate HCA to public or other organization to be maintained in a natural state.</li> <li>35. Locate landscaping (required by other sections of the code) adjacent to HCA.</li> </ol> |

2. Refer to Natural Resources Appendix 1 for key policies requiring or guiding habitat protection; the review of Audubon Society of Portland’s useful review of code barriers in Washington County is also recommended (SPIR report, available online at [www.audubonportland.org/conservation\\_advocacy/urbanconservation/science\\_planning](http://www.audubonportland.org/conservation_advocacy/urbanconservation/science_planning)).
3. Refer to Natural Resources Appendix 2 provides a sample of grants and other funding mechanisms of potential use in implementing the concept plan.

## B. Stormwater Management

Stormwater management greatly influences air and water quality in urbanized areas. The following stormwater management implementation strategies and action measures are recommended:

1. Require sufficient monitoring of stream conditions to gauge the success of stormwater management techniques, and provide an adaptive management strategy if field studies show that the methods are under-performing.
2. Construct new streets where appropriate, driveways and parking lots in the study area to meet Green Street guidelines/green stormwater practices and bring all existing streets that are reconstructed or improved up to green street standards.
3. Implementing plans and ordinances should be designed to attempt to achieve stormwater runoff quantities no greater than that produced from 10% effective impervious area (EIA).<sup>7</sup> Manage stormwater runoff to mimic natural watershed hydrology and support natural stream flow patterns.
4. Require and enable, where technically feasible, alternative stormwater management practices for all new development such as (see Table 1 for a more extensive list of habitat-friendly development practices):
5. Green infrastructure to retain and detain stormwater onsite (first choice but not always feasible)
6. A stormwater collection system that pipes water to offsite treatment facilities before stormwater is carefully released into local streams.
7. Natural wetlands should not be used to treat or manage stormwater runoff. Efforts should be made to maintain or restore natural wetland hydrographs, water quality and high quality wetland and associated upland habitats.
8. Recommended Additional Facilities
  - New controls, including storm water treatment, flow detention and discharge management will be needed. “Green Streets” will be one of the approaches. Others include naturescaping, conserving urban tree canopy, public education, street sweeping, illicit discharge detection and correction, bio-swales, erosion control during construction, incentives for innovative design practices, and other “green” technologies.

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<sup>7</sup> To explain the difference between Total Impervious Surface (TIA) and Effective Impervious Surface (EIA), think of two gutters draining a 2,000 sq. ft. rooftop. The TIA is 2,000 sq. feet. Say one of the gutters drains to an onsite water garden or a rain barrel; the TIA is still 2,000, but the *effective* impervious area, or EIA, has been reduced by half to 1,000 feet, thereby reducing stormwater impacts.

- Mitigation land banking whereby habitat is restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar resources. (See Mitigation Primer in Natural Resource Appendix 3 for more information.)

## C. Conservation Areas

In order to protect water quality and retain wildlife habitat, the Concept Plan designates Conservation areas on the most environmentally sensitive areas. These areas are assumed to have very little urban-level development. The Conservation areas include the following baseline minimum categories of natural resources to be protected:

- Water quality buffers around streams, as required by Title 3 of the Metro Urban Growth Management Functional Plan, which generally provides a 50-foot buffer on certain streams.
- 100 year Floodplains and wetlands, as required by Title 3 of the Metro Urban Growth Management Functional Plan
- Class I and II riparian habitat. Class I consists of rivers, streams, wetlands, undeveloped floodplains, forested areas within 100 feet of streams or within 200 feet of streams in steep areas and unique, rare or at-risk streamside habitats known as habitats of concern. Class II consists of rivers, streams, areas within 50 feet of developed streams, as well as areas with trees and other vegetation within 200 feet of streams and portions of undeveloped floodplains. These areas provide fewer ecological values than Class I areas but are still important for stream health. Class I and II are addressed under Metro's Title 3 and Title 13. (NOTE: Key upland habitats (Class A, B, C) do not currently include regulatory protection under either Title 3 or Title 13 and are not included in the Conservation areas).
- Steep slopes >25%
- Protection of certain butte tops which cannot be easily accessed by two or more roads less than 15% grade.

Existing regulatory requirements will likely not be sufficient to keep water quality and wildlife habitat from declining as the area develops. For example, existing regulations (Title 3 water quality) provide the strongest certainty of protection over time, but some of the Class I and II riparian habitats are outside of Title 3 areas and do not currently receive regulatory protection. However, new regulations for these areas are currently being considered by Metro for the entire urban region. Steep slope areas (many on the sides of the buttes or next to streams) are naturally difficult to develop, and some are identified natural hazard (landslide) areas; however, outside of Title 3 and the newly passed Title 13, such areas do not currently receive regulatory protection. Undeveloped butte tops are currently not protected through regulations. Trees and woodlands currently receive no protection in the Concept Plan area except through the existing Happy Valley tree cutting ordinance and the Forest Practices Act.

In order to minimize the impact of urbanization, protect water quality and protect the viability of the fish and wildlife habitat, a variety of actions should be considered. These range from completing the Natural Resource element of the Comprehensive plan, to protection of the natural resource to retaining and restoring of the native vegetation.

The following general action measures should be considered to effectively protect Conservation areas:

1. Adopt a Natural Resources element of the comprehensive plan
  - a. Supplement Metro's Goal 5 Natural Resource inventory and ESEE analysis to insure accuracy of the wetland and riparian corridor information, and define local approaches to balancing natural resources and conflicting uses to protect the significant natural resources in the community.
  - b. Adopt regulations and other programs to implement the Metro Title 3 requirements
2. Develop comprehensive plan and zoning ordinances to address the appropriate residential densities and development standards in the Conservation areas, as follows:
  - a. Limit new land divisions to no more than the densities allowed under the current zoning and no less than 1 du per 10 acres.
  - b. Limit the impact of development by limiting building footprint, area of disturbance, and other regulations.

The following more specific implementation measures in the Conservation area are recommended to protect sensitive habitat lands, watersheds, and wildlife corridors.

3. Protect sensitive habitat lands included within the Conservation areas, as well as for other important natural resource land, by using tools such as:
  - a. Habitat-friendly development practices outlined in Table 1 (from Metro's Title 13).
  - b. Conservation easements.
  - c. Land acquisition.
  - d. Design techniques (such as clustering) to shift development out of the riparian and upland habitat areas.
  - e. Land uses with overall low impact on water quality and habitat integrity as buffers between higher density development and the habitat areas, with the intent of preserving and enhancing water quality, wildlife corridors, and habitat integrity.
  - f. Transfer of Development Rights.
  - g. Maintaining existing zoning or re-zoning land in the Conservation areas in such a way as to allow little or no new development.
  - h. Stream crossing designs - minimize stream crossings, use bridges rather than culverts, and install wildlife under- or over-crossings when roads or bridges may block wildlife passage.
  - i. Implementation of the Green Street guidelines.
4. Restore and enhance the region's watersheds through using the following tools:
  - a. Adopt tree preservation and planting measures and habitat mitigation requirements to protect existing trees and increase overall tree canopy.
  - b. Target areas within at least 150 feet of streams<sup>8</sup> and the 100-year floodplain for protection to maintain intact habitats along the stream corridor and restore those that

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<sup>8</sup> The scientific literature often refers to one site-potential tree height (SPTH), which is at least 150 feet in the Damascus area, as a key area of the greatest ecological importance to water quality and wildlife in intact riparian areas. Full riparian functions (i.e., 100% effectiveness) that support healthy streams have been found to require a riparian width of two SPTHs (Spence et al. 1996). These areas provide significant wildlife habitats as well, although additional habitat and environmental features may be required to meet the specific needs of some species.

- have been lost or degraded. This area is the most critical for providing riparian and floodplain functions. Wider areas should be protected and enhanced whenever possible<sup>2</sup>. Even if every acre of existing fish and wildlife habitat were protected within the watershed, stream and habitat quality can be expected to decline as human use of the land intensifies. Therefore, protecting existing ecological functions and making improvements in degraded areas over time will be vital to help offset negative impacts of urbanization in the future, such as precipitous water quality declines.
- c. Remove non-native, invasive species from natural areas and prohibit the planting of species on a Nuisance Plant List (e.g, City of Portland's list). Native vegetation from local sources should be seeded or planted if areas have been heavily disturbed and are not likely to recover rapidly through natural recruitment.
  - d. Replace, retrofit or remove instream barriers that impede the movement of fish and other aquatic species. Effects on channel morphology and the movement of bedload material should be considered in project designs so that natural conditions and ecological processes can be maintained or restored to the extent possible. Metro, ODOT, and Clackamas County have instream barrier culvert information. Metro administers federal highway funds that can supply grants to remove or replace such impediments.
  - e. Restore wetlands and stream reaches that have been lost or degraded due to tiling, filling, grading, vegetative removal, hydrological alterations, invasion by non-native species or other factors whenever possible to provide key wildlife habitats, ecological functions and associated public benefits.
  - f. Enhance and restore flows and channel morphology to improve stream health, habitat quality and complexity, native biotic diversity, floodplain connectivity and riparian conditions to the extent possible, considering existing watershed conditions and projected levels of urbanization. Avoid or mitigate new impacts to stream hydrology and water quality through the use of effective stormwater management practices and restoration strategies.
  - g. To broaden local participation and foster stewardship for conservation areas, the City should support grass roots citizen involvement in conservation and restoration projects.
5. Preserve, restore or enhance key wildlife corridors during the Comprehensive Planning process by considering:
    - a. Protection of wildlife movement corridors and removal barriers to wildlife movement. Address existing or potential wildlife injury/kill areas by protecting and restoring habitat connections (see the Natural Resource Map 1: Key Wildlife Corridors), installing wildlife-friendly road crossings, building bridges that span across terrestrial corridors associated with streams, and using other wildlife-friendly development strategies. See Metro's Wildlife Crossings manual. See Natural Resource Appendix 4: Wildlife Corridor Implementation Recommendations for additional information.
    - b. Using the Natural Resource Table 2: Recommended Widths and Corridor Type as a guide to determining the appropriate protection area for the wildlife corridors.
    - c. Applying **Neighborhood Transition Design Areas** as described in Metro's "*Liveable Communities Handbook*" when is completing the local comprehensive planning process. These are designed to include a mix of appropriate uses, placed within a 100' transition

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Environment Canada recommends 300-foot wildlife travel corridors. It stands to reason that these areas would be of primary importance to restore.

area bordering the ESRA (Environmentally Sensitive/Restoration Areas). See Figure 1 and Figure 2 for graphical example of Neighborhood Transition Design areas. Local jurisdictions should also review the natural resource implementation recommendations for the Pleasant Valley concept plan.

**Natural Resource Table 2:  
Recommended Width for Key Wildlife Corridors**

| <b>Corridor location</b>  | <b>Recommended width</b> | <b>Corridor Type</b> |
|---|--------------------------|----------------------|
| 1. Rock Creek riparian corridor north to Powell Butte   | 600 feet                 | Riparian             |
| 2. Scouter's Mountain to Rock Creek   | 600 feet                 | Riparian             |
| 3. Rock Creek to Butler system (northern route)   | 600 feet                 | Riparian             |
| 4. Rock Creek to Butler system (southern route)   | 300 feet                 | Riparian             |
| 5. Passage from northern Butler butte in study area to parks areas north of concept planning area | 600 feet                 | Upland               |
| 6. Sunshine Butte to Tower Hill   | 600 feet                 | Upland               |
| 7. Sunshine Butte to Tower/Zion   | 300 feet                 | Riparian             |
| 8. Corridor along eastern edge of Tower Hill  | 300 feet                 | Riparian             |
| 9. North Fork Deep Creek  | 600 feet                 | Riparian             |
| 10. Deep Creek Mainstem   | 600 feet                 | Riparian             |
| 11. Noyer Creek   | 600 feet                 | Riparian             |
| 12. Eastern Richardson Creek tributary  | 300 feet                 | Riparian             |
| 13. Clackamas River Mainstem  | As wide as possible      | Riparian             |
| 14. North Butler to Sunshine Butte  | 600 feet                 | Upland               |
| 15. Richardson Creek Mainstem   | 600 feet                 | Riparian             |



Figure 1: Cross Section for Neighborhood Transition Design Area

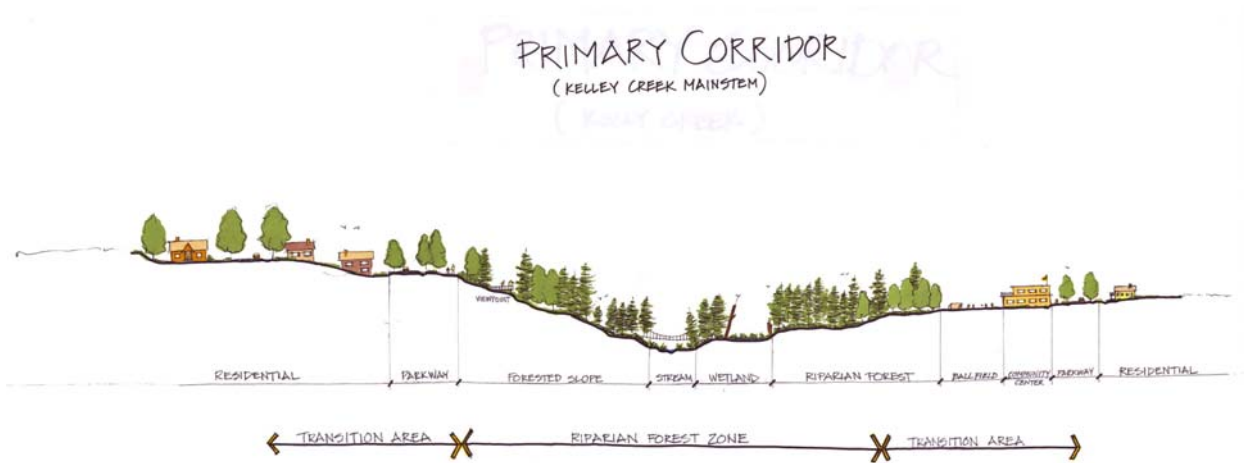


Figure 2: Illustration of Neighborhood Transition Design Area



## D. Transition Areas

In addition to the Conservation areas, Transition Areas have been applied in the butte areas to further protect natural resources. The Transition Areas include land generally between 15% and 25% slope. (The GIS mapping used for the Plan is intended for conceptual planning.) The Transition Areas also include some lands less than 15% slope that are recommended in order to: (1) create continuous “patches” of habitat areas, sometimes linking two or more separated Conservation Areas; (2) help protect or buffer adjacent Transition or Conservation Areas; and/or (3) create a logical edge to Urban Areas. More accurate local surveys will likely lead to refinements in the slope information.

The region’s volcanic buttes compose a defining characteristic of the study area. The buttes contain the headwaters of many streams; healthy headwaters are important to downstream health. They also contain a good deal of the region’s existing forest and steep slope areas. Steep slopes are vulnerable to landslides and erosion, particularly when trees are removed and development occurs. The buttes also provide key wildlife habitat for many long-distance migratory songbirds, deer and elk, and a host of other wildlife species. The buttes plus the stream corridors form the key backbone for the area’s fish and wildlife habitat.

The Transition Area is intended to have a mixture of conservation and careful development. To implement the intent of the Transition Areas, the following strategies should be considered:

1. Create Comprehensive Plan and Zoning designations that implement the Transition areas. Flexibility for land owners could be provided through three options:
  - a. *Develop* homes at very low densities (e.g. 1 unit per 5 acres) outright. Develop performance standards for site design to reduce the impact of development;
  - b. *Cluster* development on no more than 20% of the site area, using 1 dwelling per acre as the basis for the density calculation. Clusters would be small and unobtrusive – conforming to performance standards. The remaining 80% of the site or planning unit should be preserved as open/natural resource space with the intent of preserving as much tree cover and wildlife habitat as possible and retaining large habitat patches, unique habitat types, stream headwaters and corridors for habitat connectivity;
  - c. *Sell* development rights (Transfer of Development Rights). Incentives to encourage transfers could be part of the program.
2. Tools for clustering and transferring of density will need to be detailed and adopted. Several potential tools are available
  - a. Development Standards, including but not limited to the following:
    - Maximum site disturbance area
    - Maximum permeable surface
    - Driveway maximum width and length, permeable materials
    - Tree protection standards

- b. Develop an effective TDR program, addressing issues such as creation of reception areas and “banking” of TDRs. (see Natural Resources Appendix 5)
  - c. Develop model language for CC&Rs to assure that land preserved as subdivision openspace is preserved and maintained in perpetuity
- 3. During State Land Use Goal 5 compliance requirements for adoption of the Comprehensive Plan, adopt protection measures for Upland Wildlife areas.
- 4. Develop a master plan for each butte to maximize the protection of wildlife habitat. The master plan would at minimum identify the appropriate locations for the clustering of new houses in transition areas, target areas for acquisition of open space, and other techniques for preservation.
- 5. Develop an Open Space Inventory to include “Natural Areas”
- 6. Support permanent maintenance of the open space areas created by cluster development in the Transition areas. Develop policies and governance models for ownership, maintenance and stewardship of natural areas preserved through dedication, easements, tracts, homeowners associations, or other options/tools.
- 7. Develop a plan for public purchase / acquisition of open space. City park providers and Metro should develop a maintenance program for publicly owned lands in butte areas.
- 8. Forest canopy is assumed to be protected in the Conservation and Transition areas, and in some parks. However, in order to implement protection and preservation of woodlands, implementation measures will need to be established through plan, ordinance, and incentive tools.
  - a. Adopt a tree cutting ordinance. Standards could include:
    - Require tree cutting permits
    - Retain forested areas greater than a specified size
    - Selective harvest such as thinning or no clear cuts greater than a specified size (i.e. two acres).
  - b. Establish tree preservation, planting, and maintenance incentives
- 9. When areas that meet the criteria for Transition areas are located adjacent to a Neighborhood Center, consider applying higher density land use designations in these areas if they can be planned to maintain natural resource values and integrated into a walkable neighborhood.

## **E. PARKS AND OPEN SPACES**

Parks and natural resources seem to go hand-in-hand. However, certain issues create conflicts between human uses and natural resource values. For example, it is desirable to avoid heavy-use trails in key wildlife movement corridors. In addition, some parks are “active” – for example, ball parks – while others provide passive recreational opportunities such as hiking or bird watching; active parks do not generally provide high quality wildlife habitat. The placement of active and passive parks will need a great deal more study to thoughtfully integrate human and natural resource issues.

To support the natural resources, consider the following implementation measures when planning and developing parks and open spaces:

1. Target acquisitions of land and development rights to protect high value habitats (or habitat that could be restored to high value, such as degraded wetlands or headwaters); acquire areas that can be used to increase habitat connectivity; and provide buffers between urban land uses and sensitive natural resources.
2. Preserve or restore natural habitat areas near or adjacent to schools, to maximize opportunities to site public facilities in locations that can contribute to natural resource conservation while providing places for students to study the environment and experience nature.
3. Where possible and where it would not prove detrimental to onsite natural resources, provide for multiple uses of open space areas (such as siting sports fields adjacent to natural areas to provide a transition zone that will buffer important habitats from more intensive land uses, bioswales within parking lots, etc.).
4. Provide access and passive recreational opportunities without unduly compromising habitat values by planning ahead and protecting sufficient land within or adjacent to natural area corridors, easements or other means to incorporate public trails into the open space network.
5. Locate buildings, parking lots, sports fields and other improvements to ensure the protection of existing trees, forested areas and wildlife corridors during the initial site planning and design of any development.
6. Ensure that habitat connectivity is provided for where needed, and restore or create natural habitat areas on less developed portions of the site. .
7. Use native plant species and xeriscape techniques to reduce the need for herbicides, pesticides, and additional irrigation, to provide backyard habitat, and to reduce the risk of invasive species introductions for landscape on the more developed portions of the site.
8. Provide an urban park or open space area within walking distance (e.g., ¼ mile) of all residential and commercial development within urban areas (see "*Landscape Based Place Making*" in Natural Resources Appendix 6).
9. Consider potential public uses as lands are identified for park acquisitions to ensure that sufficient parkland will be available to accommodate public uses (e.g., trails, parking, and other infrastructure) while avoiding or minimizing disturbances to habitats and species.
10. Consider the Key Wildlife Corridors map in conjunction with Metro's Master Greenspaces plan and other relevant information, to help identify potential natural area acquisition sites.





**GOAL F:** *Plan for adequate and coordinated public facilities and services, including sewer, water, storm drainage, police, fire, parks and schools.*

**PRINCIPLES –**

We will plan for sufficient and appropriately located land to meet the community's need for:

- F1:** Public education in the neighborhoods and throughout the community.
- F2:** Public park, recreation and open space facilities.
- F3:** Police, fire and emergency facilities and services.
- F4:** Cost-effective and feasible sanitary sewer and public water facilities.
- F5:** Cost-effective and feasible surface water conveyance, treatment and storage.
- F6:** Recycling of storm water and gray water.

## **RECOMMENDED IMPLEMENTATION AND FUNDING STRATEGIES**

### **A. SCHOOLS AND PARKS**

1. Define how different schools and park types can function as compatible uses within the community. That definition should consider the following:
  - a. Provide opportunities for co-location between schools and parks and other public facilities where possible. This works when the active recreation facilities needed by the schools are located in the adjacent parks and when these facilities are available to schools whenever they need them.
    - Neighborhood parks are compatible with elementary and middle schools
    - Community parks are compatible with high schools
    - Regional parks generally should not be located adjacent to schools
    - Consider a regional park that provides playing fields and active recreation facilities to serve a number of schools (joint-district possibility) and/or neighborhoods (similar to Hillsboro Stadium and Parkrose Community Swim Center) to reduce overall acreage and capital facility needs.
  - b. Locate schools and parks to ensure protection of on-site natural resources where appropriate.

- c. Create a regional and local network of trails that promotes active living by connecting regional, local and neighborhood parks, natural areas, and open spaces within and around neighborhoods, employment areas, town centers and schools.

## **B. PARKS**

1. Develop a detailed master plan for the parks, trails, greenways and natural area system as a part of each city's comprehensive plan. Use the Parks and Schools Concept Diagram (See map in Public Facilities Map 1: Schools and Parks Diagram) as source material for the parks master plan.
2. Integrate planning and management for parks, open space and natural areas.
3. Consider a network of neighborhood parks, community parks, urban plazas and other parks that are equitably distributed and sized to meet demands.
4. Consider adjacent land uses when siting parks to ensure that parks are compatible with nearby activities.
5. Develop one regional park that will accommodate large ball field complexes, area-wide stadium, etc. Where possible other regional parks should generally be about 25% active and the remainder passive or natural area parks.
6. Encourage Metro and/or state and other agencies and organizations to acquire lands to develop the Clackamas Bluffs Natural Area park concept (i.e. Big Park).
7. Provide connectivity opportunities to the Big Park from local and regional parks.
8. Neighborhood parks should be located within walking distance of all homes.
9. In low density residential areas, neighborhood parks needs may partially be met by private organizations, such as PUD associations.
10. In centers and employment areas, plazas, pocket parks and recreational trail systems may be developed and maintained by adjacent businesses.
11. Community gardens/shared plots may be provided by developers – especially in the higher density areas.
12. Work with Metro to amend the Regional Transportation Plan and the Greenspaces Master Plan Regional Trails and Greenway Map to reflect the proposed regional trails.
13. Provide opportunities for an east to west trail network. Provide regional and local connectivity to the Springwater Corridor Trail and other existing and future trails in Happy Valley, the North Clackamas Parks and Recreation District, Pleasant Valley, Gresham and Clackamas County. Connect trails to existing and potential park lands within the Damascus/Boring Concept Plan study area. Some regional trails are multi-use and may serve a dual function of recreation and transportation.
14. Ensure student safety through careful design of trails that connect to school grounds. Identify strategies that would be provided for the safety needs of school children while also providing for the goal of linking the community with a network of trails.
15. Consider aligning trails alongside power line and sewer right of ways in partnership with utility providers, where appropriate.
16. Assure flexibility in the city's development code to allow (where appropriate) the use of low impact development standards when building parks and trails, examples include green roofs, rainwater recycling, permeable parking lots/surfaces, bioswales, etc.
17. Determine who has maintenance/operations responsibility for each park type within the system, and assure the adequate provision of funding for long-term maintenance and stewardship of parks, trails, greenways and natural areas.

18. Allow neighborhood parks, trails and open space and natural areas as an outright use in all city zones. Consider also allowing community and regional parks as an outright use, with standards to address traffic and other impacts in all city zones.

**Park Costs**

| <b>Cost Estimate for Parks</b>                        |                               | Cost per acre | Number of Acres | Cost                 |
|---|-------------------------------|---------------|-----------------|----------------------|
| <b>Land Acquisition</b>                               |                               |               |                 |                      |
| Neighborhood Park/Smaller Scale Park                  |                               | \$ 250,000    | 169.2           | \$ 42,300,000        |
| Community Park  |                               | \$ 250,000    | 169.2           | \$ 42,300,000        |
| Regional Park   |                               | \$ 250,000    | 338.4           | \$ 84,600,000        |
|   | <b>TOTAL Land Acquisition</b> |               |                 | <b>\$169,200,000</b> |
| <b>Site Development</b>                               |                               |               |                 |                      |
| Neighborhood Park/Smaller Scale Park                  |                               | \$ 287,010    | 169.2           | \$ 48,562,092        |
| Community Park  |                               | \$ 425,200    | 169.2           | \$ 71,943,840        |
| Regional Park*  |                               | \$ 425,200    | 338.4           | \$ 63,780,000        |
| Trails - hard surface: 8' wide {cost per mile}        |                               | \$ 500,000    | 12.5            | \$ 6,250,000         |
| Trails - Soft (wood fiber): 6 wide {cost per sq. ft.} |                               | \$ 2.60       | 12.5            | \$ 1,029,000         |
|   | <b>TOTAL Site Development</b> |               |                 | <b>\$191,564,932</b> |
| <b>TOTAL Park acquisition and development costs</b>   |                               |               |                 | <b>\$360,764,932</b> |

\* Regional Park cost estimates assume 150 acres of developed park land and the remainder left as natural areas

Source: Park cost estimates are from the NCPRD Capital Improvement Plan and System Development Charge methodology adopted in 2004 (the Damascus estimate includes an index to account for construction and land price increases since last year). Some information was also used from the County Parks Master Plan and Metro Greenspaces program. The costs in the CIP and SDC methodology were developed by NCPRD with assistance from Don Ganer and Associates after discussions with area park providers.

## **Funding Strategies for Parks**

1. Develop an effective System Development Charge (SDC) that provides an adequate funding mechanism to cover land acquisition and construction costs for parks.
2. Develop opportunities and incentives for land banking.
3. Explore opportunities to provide adequate funding to operate and maintain parks, trails, greenways and natural areas.
4. Work with partners such as schools, storm water services, sewer, water and power providers to acquire parklands that may serve a dual function (e.g., sections of a park is used for storm water detention). The utility agency and the park provider could share costs of maintaining the park.
5. Allow SDC credits for when developers provide construct and dedicate a public park to the extent that they have contributed more park facility than their proportional share of project impact. This can be a “win-win” where the developer gets a built amenity as part of a new project, and, the City gets a fully developed park at lower cost than would occur in a public contracting process.
6. Funding Sources could include
  - Property taxes
  - Levies and Bonds
  - User fees (entrance fees)
  - Local improvement districts for parks
  - Public/private partnerships
  - Private donations/sponsorships
  - Dedications as part of developments
  - Fundraising
  - State funds (e.g., cigarette/alcohol taxes, bottle taxes, lottery funds, marine board, economic development funding, etc)
  - Utility fees (i.e., through partnerships with sewer, water, power agencies)
  - Conservation district or park/open space district (creation of special taxing district to acquire/develop/maintain parks/recreation facilities)
  - Other fees (e.g. real estate transfer fees)
  - Urban renewal
  - Pursue grant opportunities identified on Chart 1.

**CHART 1 - Potential Grant Funding – Parks and Trails**

| Grant Name  | Organization                                  | Funding Source                   | Types of Projects   | Match   | Cycle   | Specifications   |
|---|---|----------------------------------|---|---|---|--|
| Land & Water Conservation Fund                            | Oregon State Parks & Recreation               | Federal - National Park Service  | Land acquisition, park development, and rehabilitation (Outdoor Recreation Only)  | 50% - in-kind contributions can account for part or all of local match                    | Fall  | Extensive - cost estimates of project, sources of funding, natural resource review, EA, etc.                         |
| Recreation Trails Program                                 | Oregon State Parks & Recreation               | Federal - Highway Administration | Trail and Trailhead acquisition; construction; rehabilitation; easement acquisition and education programs.   | 20%   | December - letter of intent<br>February grants due                        | Extensive - cost estimates of project, sources of funding, natural resource review, etc.                             |
| MTIP  | Metro and Oregon Department of Transportation | Federal - Highway Administration | Opportunities for pedestrian and bicycle facilities.  | 10.27%  | 2006  | Extensive - cost estimates of project, sources of funding, natural resource review, etc.                             |
| Transportation Enhancement                                | ODOT  | Federal - Highway Administration | Bike/Ped  | 10.27%  | Spring 2006   | Extensive - cost estimates of project, sources of funding, natural resource review, etc.                             |
| Local Government Grant Program                            | Oregon State Parks & Recreation               | State - Lottery \$               | Land acquisition, park development, and rehabilitation (Outdoor Recreation Only)  | 50%   | bi-annual, next cycle possible 2006                                       | Extensive  |
| Tourism Attraction Development Assistance Program (TADAP) | Clackamas County Tourism Development Council  | Local                            | Projects that encourage tourism - parks, facilities   | 50% (in most cases)   | Generally, applications due March, awarded May and funding available July | Will not reimburse for work already completed. However, could break project into parts and ask for a specific piece. |
| Tourism Cooperative Marketing Program (TCMP)              | Clackamas County Tourism Development Council  | Local                            | Marketing of venues to encourage tourism  | 50%   | varies  | Help with the advertising and marketing of facilities  |
| Community Development Block Grant                         | Clackamas County                              | Federal - HUD                    | Community development needs : benefit low and moderate income persons; prevent blight or slums and meet urgent community needs (health and welfare issues). | 20% - match may include cash, donations, services, staff time, and volunteer hours.       | 3 year grant cycle  | Extensive - cost estimates of project, sources of funding, natural resource review, etc.                             |
| OWEB Grant Programs                                       | Oregon Watershed Enhancement Board            | State - lottery \$               | Watershed Enhancement specifically land acquisition, education, restoration, rehabilitation   | 25% - (in-kind contributions and partnerships can account for part or all of local match) | 2 cycles per year, applications due in October and April                  | Extensive - cost estimates of project, sources of funding, natural resource review, etc.                             |

\*There are a number of private funding sources (foundations) that that could potentially be pursued

## C. SCHOOLS

1. Provide safe bike and pedestrian access to schools wherever possible.
2. Conduct review of transportation systems, land uses and safety conditions when siting schools to ensure safe pedestrian and bicycle access to schools from residential and commercial areas.
3. To promote active living, schools should be located within neighborhoods and should be connected to parks, natural areas, and open spaces..
4. Ensure safety by gating trails and storm water detention areas that connect to school grounds.
5. Provide for school facilities close to or within the neighborhoods they will serve, so they may serve as community centers and provide open space for activities.
6. Lands to be identified for schools should have minimal slopes, 10% or less.
7. Maintain existing school district owned, developed and non-developed lands.
8. Elementary schools should be accessible from collector streets, high schools accessible from minor or major arterial.
9. Identify sufficient school sites to serve the student population expected.
10. Assure that zoning ordinances allow for an expeditious process that minimizes impediments to school infrastructure development and construction. Schools should be allowed in zones other than residential.

**Costs**

**Cost Estimates for Schools**

| <b>Land acquisition</b>                                | <b>Cost per Acre</b>   | <b>Number of Schools</b> | <b>Number of Acres</b> | <b>Cost</b>          | <b>Assumed Site Size</b> |
|--|------------------------|--------------------------|------------------------|----------------------|--------------------------|
| Elementary School                                      | \$250,000              | 10                       | 100.00                 | \$25,000,000         | 10                       |
| Middle School  | \$250,000              | 3                        | 90.00                  | \$22,500,000         | 30                       |
| High School  | \$250,000              | 2                        | 80.00                  | \$20,000,000         | 40                       |
| <b>TOTAL Site Acquisition Costs</b>                    |                        | <b>15</b>                | <b>270.00</b>          | <b>\$67,500,000</b>  |                          |
| <b>School Construction</b>                             | <b>Cost per School</b> | <b>Number of Schools</b> |                        | <b>Cost</b>          |                          |
| Elementary School                                      | \$14,586,000           | 10                       |                        | \$145,860,000        |                          |
| Middle School  | \$26,520,000           | 3                        |                        | \$79,560,000         |                          |
| High School  | \$62,530,000           | 2                        |                        | \$125,060,000        |                          |
| Alternative HS   | \$7,681,500            | 1                        |                        | \$7,681,500          |                          |
| <b>TOTAL School Development Costs</b>                  |                        |                          |                        | <b>\$358,161,500</b> |                          |
| <b>TOTAL School acquisition and construction costs</b> |                        |                          |                        | <b>\$425,661,500</b> |                          |

Source: School costs are based on information developed for master planning work for the North Clackamas School District and the Gresham-Barlow School District.

**Funding Strategies**

1. Develop opportunities and incentives for land banking.
2. Work to change State legislation to allow developing an effective System Development Charge (SDC) that provides an adequate funding mechanism to cover land acquisition costs for schools, as well as related on and off-site public infrastructure costs.
3. Minimize the amount of land by using land as efficiently as possible, co-locating public facilities where appropriate.

## D. WATER

1. Consider opportunities for co-location of compatible uses on owned sites.
2. Develop aggressive conservation program to reduce need for additional facilities or reduce size of additional facilities
3. Integrate recycled water as part of supply plan, in cooperation with waste water provision.
4. Assure that zoning ordinances allow for expeditious re-zoning process to minimize impediments to infrastructure development/construction.
5. Utilize just-in-time facility construction scheduling.

### Costs

#### Cost Estimate for Water Facilities

| Category                | Cost                 | Acreage Required |
|-------------------------|----------------------|------------------|
| Source Development      | \$ 91,250,000        |                  |
| Storage Capacity        | \$ 86,575,000        | 10 Acres         |
| Pumping Capacity        | \$ 9,167,000         | 4 Acres          |
| Transmission            | \$ 66,487,000        |                  |
| Valves                  | \$ 425,000           |                  |
| Supporting Programs     | \$2,600,000          |                  |
| Administrative Facility | \$5,000,000          | 10 Acres         |
| <b>Total</b>            | <b>\$261,504,000</b> |                  |

Source: Estimates for water system costs were prepared as part of Sunrise Water Authority's master plan and was prepared in house by engineering staff at Sunrise.

### Funding Strategies

1. Alternative revenue streams from agency resources (cell tower leases, bottled water sales, development of surplus property for lease)
2. Rate adjustments or multiple rate schedules based on facilities used to provide service at each Equivalent Dwelling Unit.
3. Establish a System Development Charge to pay for new and enlarged water facilities.
4. Develop an effective cost strategy that adds one capacity unit at a time onto a larger regional facility
5. Revenue Bonds
6. General Obligation Bonds

## E. WASTEWATER

1. Develop a detailed master plan for trunk sewer based on the final land use plan.
2. Look for opportunities to restore and improve creek natural areas through the construction of sewer lines.
3. Look for opportunities to co-locate walking paths and pedestrian facilities with trunk sewers.
4. Minimize the number of pump stations to prevent overflows.
5. The presence of sewers will determine whether an area can develop. Consider selecting the order that drainage basins are opened for development by selecting trunk sewer construction sequence.
6. Consider delaying trunk sewer construction until the comprehensive plan and zoning ordinance have been adopted. Once trunk sewers are provided, the pressure to develop will increase.
7. Consider working with the drinking water providers to develop water reuse and reclamation facilities in the study area to reduce peak day demand on water withdraws from the Clackamas River and other water sources.
8. Consider participating in regional wastewater treatment service partnerships to reduce “up front” system capital needs.
9. Develop a strategy to improve stream side habitat while allowing wastewater facilities to be built within the habitat.

### Costs

The following table lists the total estimated cost for the system by major component.

#### **Wastewater Trunk System Planning level cost estimate**

| Component   | Estimated cost       |
|---|----------------------|
| Gravity trunk lines and pump stations in study area | \$55,000,000         |
| Conveyance to treatment facility                    | \$22,000,000         |
| Treatment   | \$73,000,000         |
| <b>Total</b>  | <b>\$150,000,000</b> |

Note:

These costs are exclusive of the cost for local sewers which are normally provided as a condition of development.

Sources:

Clearwater Project Implementation Plan, August 2, 2005, Prepared by WES Staff  
Regional Wastewater Treatment Options Study, February 2004, prepared by West Yost and Associates and Black and Veatch.

## **Funding Strategies**

1. Use System Development Charges (SDC) as the primary method to recover the capital cost of trunk sewers and pump stations.
2. Sell revenue or general obligation bonds to raise “up front” capital to extend sewers and then pay the bond payments from SDC or other revenue sources.
3. Set System Development Charges to recover all cost allowable, including financing costs and interest if possible.
4. Request federal fund for major infrastructure expansion, including sewers and treatment facilities.
5. Develop an effective cost strategy that adds one capacity unit at a time onto a larger regional facility

## **F. STORMWATER**

1. Develop a comprehensive storm water management plan that considers all aspects of storm water management. This plan should be based on the final land use concept and consider all development and public works standards including:
  - a. erosion control
  - b. illicit discharge control
  - c. street sweeping and storm water maintenance practices
  - d. site design standards
  - e. street drainage design standards
  - f. low impact development
2. Develop larger “regional” multi-development storm water treatment and detention facilities to reduce land area, construction and, operating cost.
3. Consider using open channels were possible to provide for infiltration and treatment of storm water in route to its release point.
4. Consider integrating “regional” stormwater facilities into the community as amenities, like lakes.
5. Integrate stormwater facilities into parks, open spaces and habitat protection areas.
6. Consider opportunities to co-locate appropriate sewer facilities with parks, trails, greenways and natural areas.
7. Consider requiring street trees and urban forests so with a goal of reducing runoff.
8. Consider not requiring raised curbs that capture storm water runoff and encourage form sheet flow across open ground.
9. Consider requiring drywells for roof runoff as the first method for discharging roof runoff. Allow roof runoff to enter the storm drainage system only if the drywell cannot accommodate the peak flow.
10. Consider storm water system design standards that provide detention and treatment during all storm events, not just the 10 year and larger storms.
11. Consider requiring parking lots to have a significant (say 50%) tree canopy for shade and water quality improvement.
12. Require bridges rather than culverts for major stream street crossings.

13. Develop policies and governance models for the ownership, maintenance and stewardship of stream corridors, like the use of dedication, easements, tracts and homeowners' associations.
14. Consider creating a new class of limited use "environment public right-of-way" for stream corridors so that the parcels do not have to meet typical lot dimensional standards. This environmental right-of-way could be any shape, size, and width provided that they meet stream buffer needs.
15. Consider creating an expedited process so that stream corridors land can be partitioned from developable land, given to the government, and protected, without going through the full subdivision process.

### **Stormwater Costs**

Stormwater system development costs are difficult to estimate. The stormwater related impacts from development are very dependent on street, parking lot, and general site development design standards. The water quality and runoff controls are also becoming more stringent as Municipal Separate Storm Sewer System permits are being strengthened as part of the normal review and renewal process. New management approaches, facility designs, and operating practices will be necessary to meet these water quality challenges. Many of these approaches are still being developed through adaptive management, which is a requirement of the permit.

The total cost for stormwater major facilities is estimated to reach \$70,000,000. The cost includes land and construction of "regional" detention and treatment facilities, but does not include curbs, gutters, catch basins and inlets, and piping that is part of a traditional stormwater system that serves a new street and surrounding properties. On-site requirements for treatment and conveyance would still be necessary.

Source: The storm water figures were taken from unpublished work done by Pacific Water Resources.

### **Funding Strategies**

1. The major stormwater facilities can be built with System Development Charges (SDC's) revenue.
2. Sell revenue or general obligation bonds to fund major facilities
3. Use SDC's to retire the bonds.
4. Fund street storm drains will as part of the street construction process.
5. Use conditions on development approvals where appropriate to build stormwater infrastructure.

## **F. FIRE AND POLICE**

1. Consider the primary public facility use. The opportunities can be better developed after the concept plan is completed and specific public facilities plans can be developed. Consider flexible office space needs with minimum requirements for staffing. The public expects to have a station where they can walk-in and receive assistance to report traffic crashes or to meet with a deputy. This can be accomplished by allocating a room in the city hall.
2. Consider establishing a centrally located building to house personnel that will be necessary to meet the service demands. The police agency should be incorporated into the city hall building or within close proximity to city hall.
3. The Boring and Damascus fire stations along with the proposed station on 172<sup>nd</sup> Ave. should be able to serve the city for 3-5 years. Groundbreaking for the 172<sup>nd</sup> Ave. station is planned in the Fall of 2005.
4. A new fire station will need to be built near the proposed town center in 4-6 years.
5. The current Damascus fire station will need to be relocated in 7-10 years.
6. A fifth station may be needed in 15 - 20 years.
7. Use land banking to meet future needs.

Costs

**Cost Estimates for Fire Services**


|  |         |                     |
|--|---------|---------------------|
| <u>Station ( 4-6 Years)</u>                                  |         |                     |
| Land Acquisition   | 2 acres | \$ 500,000          |
| Construction Cost  |         | \$ 3,500,000        |
| Equipment  |         | <u>\$ 1,500,000</u> |
| Note: personnel cost estimated                               |         | <b>\$ 5,500,000</b> |
| at \$1,000,000 per year                                      |         |                     |
| <u>Relocate/Replace Damascus Station ( 7-10 Years)</u>       |         |                     |
| Land Acquisition   | 2 acres | \$ 800,000          |
| Construction Cost  |         | \$ 2,500,000        |
| Equipment  |         | <u>\$ 750,000</u>   |
|  |         | <b>\$ 4,050,000</b> |
| <u>One Additional Station ( 15-20 Years)</u>                 |         |                     |
| Land Acquisition   | 2 acres | \$ 1,000,000        |
| Construction Cost  |         | \$ 3,500,000        |
| Equipment  |         | <u>\$ 1,000,000</u> |
|  |         | <b>\$ 5,500,000</b> |
| Note: personnel cost estimated                               |         |                     |
| at \$1,250,000 per year                                      |         |                     |
| <b>TOTAL Fire Station Acquisition and Construction costs</b> |         | <b>\$15,050,000</b> |

Sources references: Doug Branch, Chief of Boring Fire District and Ed Kirchofer of Clackamas County Fire District #1.

**Funding Strategies**

1. Bond Measure
2. Serial Levy
3. System Development Charges for fire facilities and equipment and land acquisition
4. Urban Renewal funds for infrastructure and apparatus
5. Fees for plan reviews
6. Fees for service
7. Cost recovery
8. Partnership with other public agencies (co-locate)
9. Partnership with the City
10. Existing tax base with new growth
11. Lease payments
12. Use Federal grants where available



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|  <p><b>Damascus/<br/>Boring</b><br/>Concept Plan</p> | <p><b>SECTION 7.</b><br/><b>RURAL CHARACTER</b><br/><b>IMPLEMENTATION STRATEGIES</b></p> |
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**GOAL G:** *Retain rural character while accommodating a fair share of urban development.*

**PRINCIPLES** – We will plan for:

- G1: Retaining many of the uses and features that provide the existing rural character and identity, such as visual open space, wildlife habitat, farms (including nurseries, small scale farms and demonstration farms), woodlots and public open space and parks.
- G2: Protecting significant views and historic and cultural heritage sites.
- G3: Land uses and public facilities designed to be compatible with natural features, using them to provide separation, transition and underlying form for the built environment.

## **RECOMMENDED ACTION MEASURES**

### **A. Preserving and enhancing riparian and wildlife corridors.**

Preserving and enhancing riparian and wildlife corridors is a major element of retaining rural character. The implementation strategies and action measures outlined under Section 5: Goal E: Natural Resources address preserving and enhancing these important natural resources. In addition, there is guidance in Section 5 B. 2. regarding the appropriate residential densities in the Conservation areas.

### **B. Maintain the forested buttes to the greatest extent possible**

Maintaining the forested buttes to the greatest extent possible is another significant element of retaining rural character. The implementation strategies and action measures outlined under Section 5: Goal E: Natural Resources address maintaining the forested buttes. In addition, there is guidance in Sections 5 C and D. regarding the appropriate residential densities in the Conservation and Transition areas.

### **C. Allowing for the continuance of agricultural uses**

Retaining agricultural uses has been identified as an important contributor to rural character, as well as enhancing environmental quality, and providing educational opportunities and locally grown produce. A variety of implementation tools can assist in retaining agricultural uses in the plan area:

1. Encourage farming through permitting of Agricultural Uses:
  - a. Permit agricultural uses outright in the Transition area.

- b. Permit agriculture as an allowed use, and even accommodate agriculture in special ways in some of the urban zones. Possible examples include:
    - o permitting outright all agricultural uses and nursery stock production outright in industrial zones
    - o permitting outright nursery and market farming in lower density residential zones.
  - c. Explicitly allow farm uses to continue in the plan area as long as the landowner desires.
2. Retain farm land through public purchase of agricultural land
- a. Acquire farming sites for the community as a part of the parks plan
  - b. Include urban farm conservation as part of park and open space development policy.
    - o Explore opportunities to create one or more relatively small (5-20 acre) public or non-profit produce farms on the Zenger and Luscher Farms model within the fabric of neighborhoods.
    - o Co-locate farm/parks with schools, such as the Berkeley edible school yard in California.
  - c. Acquire and manage community garden space. This could be done through the parks department or by developers providing community gardens / shared plots as a subdivision / development amenity.
3. Acquire conservation easements to preserve farm land.
- a. Work with the city, land owners, a land trust or other nonprofit agricultural conservation organization to facilitate placing conservation easements on worthy agricultural sites.
  - b. Create a local program, combined with outside (e.g. federal) funding to help secure conservation easements from willing property owners in the Kelso Road farms area south of Boring. This program could be incorporated into future planning for the Sunrise corridor.
4. Other policies that support or enhance agricultural activity
- a. Encourage urban friendly farming practices:
    - Create an urban farm policy that governs and protects certain farm uses and rights within the city limits (e.g. Spread manure, raise certain animals, operate farm equipment and other standard farming practices that are often not allowed by cities), but prohibits or discourages others (e.g. Aerial spraying, large livestock operations).
    - Develop standards for successful, safe, neighbor-friendly farming.
  - b. Provide buffers for agricultural land
    - Land uses inside the boundary affect the viability of agricultural uses outside the boundary. Locate compatible land uses, or design buffers where urban edges meet adjacent farms outside the UGB (examples include: industrial districts, parks and greenways). Buffers greater than 100 yards are needed between certain agricultural and urban uses.
  - c. Assist phased transitions for nurseries

- Work with the larger commercial nursery owners in the North Sunshine Valley to plan for a phased transition from nursery to urban land uses. This could include “shadow zoning,” or a rolling 5-10 year overlay to provide investment amortization windows.
- d. Adopt a program of protection and preservation of historic farm structures, which could include the following:
- Tax incentives to retain historic structures
  - Work with a non-profit historic preservation organization to fund grants for preservation or restoration
  - Identify one or more areas as relocation sites for local historic farm structures (barns, cottages, silos). Establish this as a sub-district or special commercial node (such as a craft/farmer's market) that would be a community asset and tourist attraction.
- e. Support and expand the market for local agricultural products by:
- i. Implementing a farmer’s market program to include the following:
    - Acquire and develop a permanent farmer’s market site as part of the city center
    - Establish a clearing house and/or provide technical assistance to eliminate obstacles and contradictions between licensing and standards agencies.
    - Develop an incentive or support program for local farm stands in the area, which could include the following:
      - allowing related short term uses that might not otherwise be allowed (seasonal festivals, etc.),
      - reduced parking lot standards,
      - special temporary sign standards;
      - unified promotions for farm stands, activities or products.
      - Expedited permitting process for produce stands and provide technical assistance to meet licensing, parking, disabled ramps, etc. requirements.
    - Providing and subsidizing the operations of a farmer’s market;
  - ii. Working with farmers to develop a Damascus “brand” intended to widen their market.
  - iii. Providing a harvest festival or other events to support local farms.
  - iv. Allowing farm stands, weddings, other activities that might subsidize farms.
- f. Monetary incentives:
- Provide monetary incentives to small scale farmers through reduced permitting fees; provision of irrigation water, technical assistance and/or grants toward using recycled water or rainwater harvesting; property tax abatements; branding and marketing; etc.
- g. Transportation assistance:
- Create tractorways by marking special farm market roads with safety signage.
  - Provide transportation management tools at the time of harvest, marketing, or other agriculture transportation times.

- h. Consider conducting a local Goal 5 inventory that includes scenic and historic lands and sites, including farms as appropriate.
- i. Establish a dialogue with local farmers, citizen farm conservation advocates, regional urban farm groups, land trusts, Metro, and LCDC to identify a combination of incentives and programs that retain some local farms and farmers within the bounds of state and regional laws and policies.
- j. Consider allowing cluster development in low density residential design types adjacent to Transition and/or Conservation zones (i.e. buttes, streams, and wildlife corridors) to retain open space that could be used for urban farming, habitat, or parks.
- k. Consider including a TDR option or similar strategies for farms later identified as valuable for conservation in a local goal 5 inventory, or through the dialogue process.
- l. Consider re-zoning only those areas programmed for initial urbanization (5-10 years), and use retention of EFU zoning as a holding pattern in other areas to allow farmers and nursery operators to plan investments.

#### **D. Building a multi-faceted park and trail system**


Building a multi-faceted park and trail system is another element of retaining rural character. The implementation strategies and action measures outlined under Section 6: Goal F: Public Facilities address building a multi-faceted park and trail system.

#### **E. Develop appropriate design standards and protect historic buildings and view points**

1. Implementation measures to retain rural character in the built form could include development standards for the following:
  - Preservation of historic buildings:
  - Curbless streets
  - Rural architectural style based on historic building form, variety, smaller scale and intensity
  - Landscaping standards that include community garden space in attached housing developments.
2. Identify and use historic names for centers and neighborhoods, subdivisions, streets, parks, etc..
3. Review existing regulations regarding historic landmarks and prepare new ones as needed for Damascus and Happy Valley. Property owners and developers should be engaged in this process before development occurs.
4. Continue to document the history of the area and identify historic landmarks.
5. Create a Damascus Historic Resources Advisory Committee
6. Integrate a cultural and historical resources plan with parks and trails master plans.
7. Several view sites have been identified during the process of developing the Concept Plan, and others most certainly exist. Protecting and taking advantage of special views could include the following tools:

- a. Adopt a significant view sites inventory and designate these sites on the Comprehensive Plan
- b. Adopt development standards and a review process to be applied at the time of development, possibly including the following
  - o Height restrictions
  - o Other building design standards to protect and take advantage of views (examples: windows, neutral exterior materials and colors)
  - o Landscaping standards



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|  <p><b>Damascus/<br/>Boring</b><br/>Concept Plan</p> | <p><b>SECTION 8.</b><br/><b>FUTURE GROWTH</b><br/><b>IMPLEMENTATION STRATEGIES</b></p> |
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**GOAL H:** *Recommend long-range boundaries for future expansion of the UGB or designate Urban Reserves in the Secondary Study Area.*

**PRINCIPLES – We will recommend:**

- H1:** Potential future UGB expansion areas in the secondary study area, if appropriate. In this process:
- Develop diagrams / strategies for the Secondary Study Area that complements the long term plan for the Primary Study Area.
  - Support the long-term plan for farm and forest resource areas in the Secondary Study Area by creating complementary plans for the Primary Study Area.
  - Identify lands in the secondary study area that deserve long-term or permanent protection from future urbanization.
- H2:** A separation between Portland Metro Area UGB and the City of Sandy urban reserve areas.
- H3:** Identify lands in the secondary study area or beyond that deserve long-term or permanent protection from future urbanization. These may include exception lands.

**RECOMMENDED ACTION MEASURES**

**A. Strategies to bring about desired future UGB expansion**

The Concept Plan envisions that the areas south of Hwy 212, east of 232<sup>nd</sup> Ave and west of the Noyer Creek Canyon that are currently outside the UGB will eventually become urbanized and be designated as (Metro) Town Center design type. Some of these lands are high value farm land, and as such would be low priority for inclusion in the UGB under current state process.

1. The city of Damascus should work with Metro, Clackamas County and affected property owners to influence a UGB expansion on the southern boundary of Damascus in the vicinity of 232<sup>nd</sup> Ave., where the expanded city center is planned. Damascus should also consider working with the state legislature to reconsider the prioritization of land brought into the UGB.

2. The appropriate place for future Metro Urban Growth Boundary expansion east of Richardson Creek and west of 232<sup>nd</sup> should be determined during the NEPA process to identify the appropriate location of the Sunrise Parkway in that area.
  - a. A concept plan should be developed for the entire area that considers adjacent uses, transportation access, and community needs. It should consider the following recommendations:
    - Do not locate the Sunrise Parkway in such a way that divides the community;
    - Limit development to the south of the Sunrise Parkway in ways that would not compromise the function of the facility

**B. Strategies to assure identified lands in the secondary study area (including some exception lands) receive long-term or permanent protection from future urbanization.**

The Concept Plan recommends that the community of Boring not be planned as part of the future UGB without substantial further study. Concerns about negative impacts on key habitat and water quality areas, as well as salmon-bearing streams, led to this recommendation. Other potential UGB expansion areas in the region may have less impact on natural resources and agriculture.

The Concept Plan envisions that Tower and Zion Buttes will remain protected from urbanization indefinitely, and that the area generally south of the proposed Sunrise Parkway (between Carver and Noyer Creek canyon) will include a large nature park. Both these areas contain natural features that complicate urbanization and provide appropriate “hard edges” to urban form. They also provide natural amenities for the urban area. However some exception lands, which under state law must be considered as first priority lands for being brought into the UGB, are located in both the Tower and Zion Buttes area and the “Clackamas River Bluffs and Canyon Area” park.

1. The city of Damascus should work with Metro, Clackamas County and affected property owners to prevent a UGB expansion on the southern boundary of Damascus in the vicinity of the Clackamas River Bluffs and Canyon Area nature park and to the east toward Boring and Tower and Zion Buttes. As with the agricultural land that is desired for inclusion in the UGB (above), it may also be necessary to work with the state legislature to consider a change in the prioritization of land to be brought into the UGB.

The Concept Plan envisions a rural break along Hwy. 212 between the city of Damascus and the community of Boring, even though that area has been designated as “future urban, for the extension of urban services only.” The city of Damascus should consider at least two strategies aimed at retaining this rural break between Damascus and Boring:

2. If and when this land is brought into the UGB, participate in concept planning to retain its rural character, such as application of a design type equivalent to the transition areas.
3. Work with ODOT, affected property owners, and with the community of Boring to consider a Green Corridor in order to maintain the desired rural break between Damascus and Boring.

### **C. Strategies to support farm and forest resource areas in the Secondary Study Area**

1. The cities of Damascus and Gresham should consider not expanding their city boundaries into the Zion / Tower butte area and further eastward toward Highway 26.
2. The Concept Plan envisions that some farm lands currently outside the UGB will not be urbanized and will have long-term preservation as farm land. The local jurisdictions should work together to implement this vision, including, but not limited to, the following:
  - Work with the State, Metro, neighboring cities, the community of Boring, and affected property owners to assure that those designated agricultural lands are not brought into the UGB.
  - Work with a farmland trust organization to determine the cost of purchasing development rights and get an assessment of funding that can be used to purchase development rights.

### **D. Strategies for maintaining a separation between Portland Metro Area UGB and the City of Sandy urban reserve areas.**

1. The city of Damascus should work with Metro, ODOT, the city of Sandy, and Clackamas County to retain and possibly strengthen the Rural Reserve and Green Corridor agreement between the Portland Metro Area UGB and the City of Sandy urban reserve areas





**GOAL I:** *Ensure that the concept plan can be implemented*

**Principles – We will recommend:**

- I1. A plan that is responsive to changing market realities.
- I2. A plan that can be supported by the agencies responsible for implementation.

**RECOMMENDED ACTION MEASURES**

**A. Strategic plan for providing urban services**

1. The cities should establish a strategic plan for providing urban services and financing infrastructure. The plan should include the following
  - A logical sequence for phased annexations, development of public infrastructure and delivery of public services as urbanization occurs.
  - A plan for financing the cost of providing infrastructure.
  - A plan for providing major public facilities at the time they are needed. “Major public facilities” will be defined in this process and be based on the details provided in the water, wastewater, stormwater and transportation reports.

**B. Survival in the marketplace**

1. Damascus should develop a strategy to help ensure the city center’s survival in the marketplace. The strategy could include, but is not limited to, the following:
  - Develop marketplace design standards and principles that can be combined with pedestrian-oriented design standards to create a unique Damascus City Center.
  - Consider future public involvement strategies to include property owners, developers and the public to create specific design standards, street layouts and a scheme for a mix of retail, service and housing uses.
  - Develop techniques, such as shadow platting, to provide for future infill at desired density. Shadow platting requires placement of buildings and land division boundaries in a way that allows future infill at the desired minimum density.