SUNRISE PROJECT, I-205 TO ROCK CREEK JUNCTION (HIGHWAY 212/224)

LAND USE TECHNICAL REPORT

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Department of Transportation and Development
And
Revised by
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TO: Readers of the Sunrise Technical Reports

FROM: Sunrise Project Team

SUBJECT: Differences between Sunrise SDEIS and Technical Reports

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The Sunrise Project: I-205 to Rock Creek Junction Supplemental Draft Environmental Impact Statement (SDEIS) presents information summarized from numerous technical documents. Most of these documents are discipline specific technical reports (e.g., cultural resources, noise, wetlands, etc.). These reports include a detailed explanation of the data gathering and analytical methods used by each discipline team.

The technical reports are longer and more detailed than the SDEIS and should be referred to for information beyond that which is presented in the SDEIS. Findings summarized in the SDEIS are supported by analysis in the technical reports and their appendices. References used to develop the reports and underlying data are presented in the technical reports.

The draft technical reports were largely completed in late 2007. Since the technical reports were completed, new information has been discovered that has been incorporated into the SDEIS. Thus, the SDEIS reflects more recent public and agency input than is included in the technical reports. For example, since the technical reports were completed, additional work has been conducted for the cultural resource documentation for Camp Withycombe and the RTP planning process has progressed with federal approvals of local plans. Also, the cumulative effects section of the document was written after reviewing all of the technical reports. No one technical report includes this comprehensive analysis.

Please refer to the appropriate section of the SDEIS for the most current information.

SUMMARY

This technical report describes the analysis and predictions of the impacts of the Sunrise Project alternatives on existing and planned land uses, and the level of compatibility of the project with adopted land use policies and plans.

To evaluate land use impacts for the Sunrise Project, Clackamas County Department of Transportation and Development staff inventoried land uses by conducting a windshield survey and using county Geographic Information Systems (GIS) data. The land use study area was divided into four zones (A, B, C, and D) for analysis.

Land use impacts may consist of acquisition of land for new right-of-way (ROW) from specific properties, displacement of buildings, changes to property accesses, effects on future growth of converting different designated land uses to highway use, and compatibility of the alternatives with adopted land use policies and plans.

How much land would be directly impacted by the Sunrise Project Alternatives?

- The Sunrise Project land use study area is quite large (3,667 acres of land and an additional 811.9 acres of existing public rights-of-way). Planned land uses in the study area are about one-third industrial, one-third residential and one-third other (e.g., commercial, rural, open space).
- Alternative 1 (No Build) would directly impact only a limited number of lots including one residential lot that would be affected by the Highway 212 climbing lane which is unique to this alternative.
- Alternative 2 (Build with Midpoint Interchange) would convert 514 acres to highway ROW, compared to 495 acres convert to highway ROW for Alternative 3 (Build with No Midpoint Interchange). These differences occur only in Zone B because that is the location of the midpoint interchange.
- The amount of land that would be converted to highway ROW ranges from a low of 477 acres for Alternative 3 with Design Option A-2 (Modified 1996 Design) to a high of 524 acres for Alternative 2 with Design Option C-3 (Modified Follow Tree-Line Alignment).
- The range of ROW conversion impacts for all build Alternative is between 13.0% and 14.3% of the existing lands in the study area.
- Under both build alternatives, most of the land that would be converted to highway ROW is currently vacant and undeveloped. Of the 514 acres required for the Alternative 2 ROW, 379 acres are vacant. Of the 495 acres required for the Alternative 3 ROW, 375 acres are vacant.

How much employment land would be directly impacted by the Sunrise Project Alternatives?

- The Sunrise Project land use study area contains 1182.5 acres of land in employment use.
- Design Option A-2 with Alternative 3 would result in the least amount of existing employment land (115.5 acres) being converted to highway ROW.
- Design Options C-2 with Alternative 2, Build with Midpoint Interchange, would result in the most employment land (141 acres) being converted to highway use.

- The range of ROW conversion impacts for all build Alternatives is between 9.8% and 11.9% of the existing employment lands in the study area.

How many acres of residential land would be directly impacted by the Sunrise Project Alternatives?

- Alternative 1 would convert little if any residential land.
- Alternative 2 with Design Option C-3 would convert the most residential land (44.6 acres).
- Alternative 3 with Design Option C-2 (Central Alignment) would convert the least residential land (31.5 acres).
- The range of residential land impacted for all build Alternatives is between 2.8% and 4.0% of the existing residential units in the study area.

How many residential units would be directly impacted by the Sunrise Project Alternatives?

- The Sunrise Project land use study area contains a total of 5,345 residential units. This existing residential development consists of 2,400 single family residential units, 1,832 multi-family residential units and 1,113 mobile homes.
- Design Option C-2 with either Alternative 2 or 3 would result in the least number of residential unit displacements (43).
- Design Option B-2 (1996 Split Interchange - Modified) with Alternative 2 would result in the highest number of residential unit displacements (75).
- Alternatives 2 or 3 would result in displacement of 72 residential units.
- The range of residential units impacted for all build Alternatives is between 0.8% and 1.4% of the existing residential units in the study area.

What impacts on future developments are expected as a result of the Sunrise Project Alternatives?

- Both build Alternatives 2 and 3, alone or combined with Design Options B-2, C-2, or D-2, would require ROW acquisition that would negatively affect several recently approved developments or development proposals in the land use study area, including the following::
  - Wenzel Park Subdivision
  - Windswept Waters Subdivision / Rivers Rim Townhouses
  - The planned Providence Medical Center near Rock Creek and 162nd Avenue.
  - Future commercial development between 137th Avenue and 142nd Avenue
- Design Option C-3, combined with either alternative, would affect up 18 residential lots in the Wenzel Park Subdivision which is currently under construction on the east side of 142nd Avenue.
- The widening of Highway 224 south of the Rock Creek Junction and the new road connecting Highway 224 to Highway 212/224 may impact the current access to the Windswept Subdivision and the recently approved Rivers Rim Townhouses.
- The Providence Medical Center site will be impacted by the proposed new Rock Creek Interchange in the following manner:
  - Design Option D-2 (Alignment through Knoll - Folded Diamond Interchange) combined with either Alternative 2 or 3 would have the highest adverse acquisition impacts on the planned Providence Medical Center

- Design Option D-3 (Single-Point Diamond Interchange) combined with either Alternative 2 or 3 would have the lowest adverse acquisition impacts on the planned Providence Medical Center.

What unique land uses are expected to be impacted as a result of the Sunrise Project Alternatives?

- Both build Alternatives 2 and 3, alone or combined with any of the design options, would affect the following unique land uses:
  - KEX radio transmission site
  - NW Pipe and Casing Superfund Site
  - Camp Withycombe (ODOT ownership)
  - Wildlife Corridor
  - Williams Pipeline regional natural gas distribution site
- Design Option A-2 with either Alternatives 2 or Alternative 3 would reduce the impacts on the KEX radio tower site by approximately half.

Are the Sunrise Project Alternatives compatible with the state, regional and local land use plans and policies?

- Alternative 1, No Build, does not meet the local, regional and state policies that plan for the creation of a through-route for freight in the Highway 212/224 Corridor between I-205 and US 26.
- Alternative 1, No Build, is also not compatible with adopted local land use and transportation plans due to expected increase in transportation system congestion that is expect to result if the Sunrise Project is not built.
- Alternative 2 and 3 alone or combined with Design Options, does meet the local, regional and state policies that plan for the creation of a through-route for freight in the Highway 212/224 Corridor between I-205 and US 26.
- Alternative 2 and 3 alone or combined with Design Options, is also compatible with adopted local land use and transportation plans due to expected decrease in transportation system congestion that is expect to result if the Sunrise Project is built.

What measures are recommended for mitigating the impacts of the Sunrise Project Alternatives?

- Mitigation measures have been proposed for Zones A and D, which include the construction of local roads and arterial traffic signals to restore accessibility to specific neighborhoods and industrial areas. The intent of these mitigation measures is to provide reasonable alternative access where practicable.
- Direct property acquisition and relocation impacts would be mitigated through financial compensation regulated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended, Oregon Revised Statutes, Oregon Department of Transportation guidance, and Federal Highway Administration Federal Aid Policy Guide.

How to Use This Report

This report is divided into four sections for the purpose of clarity:

- Description of the Alternatives
- Description of the existing conditions (Affected Environment)
- Description of the project impacts (Environmental Consequences)
- Data appendices to show the detailed analysis of project impacts
- Report Maps are at the end of each section.

Table 1: Land Use Impacts Summary Tables - Alternatives 2 and 3 and Design Options

	Alternative 1	Alternative 2	Alternative 3	Option A2 - with Alt 2	Option A2 - with Alt 3	Option B2 with Alt 2	Option C2 with Alt 2	Option C2 with Alt 3	Option C3 with Alt 2	Option C3 with Alt 3	Option D2 with Alt 2	Option D2 with Alt 3	Option D3 with Alt 2	Option D3 with Alt 3
Effects of Alternatives & Design Options	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***	***All Zones***
Total Number of Lots in Analysis Zones	3369	3369	3369	3369	3369	3369	3369	3369	3369	3369	3369	3369	3369	3369
Total Number of Lots Impacted by ROW		***296***	***259***	***297***	***260***	***324***	***302***	***265***	***309***	***272***	***301***	***264***	***296***	***259***
Total Number of Acres in Analysis Zone	3667.3	3667.3	3667.3	3667.3	3667.3	3667.3	3667.3	3667.3	3667.3	3667.3	3667	3667	3667	3667
Total Acres Removed for ROW		***513.6***	***495.0***	***495.6***	***477.0***	***521.2***	***500.3***	***481.7***	***524.2***	***505.6***	***507.6***	***489.0***	***500.0***	***481.4***
Total Number of Residential Units in Analysis Zone	5345	5345	5345	5345	5345	5345	5345	5345	5345	5345	5345.0	5345.0	5345.0	5345.0
Total Number of Residential Units to be removed for ROW		***72***	***72***	***72***	***72***	***75***	***43***	***43***	***74***	***74***	***73***	***73***	***73***	***73***
Total Number of Single Family Units in Analysis Zone	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Number of Single Family Units to be removed for ROW		***14***	***14***	***14***	***14***	***15***	***15***	***15***	***16***	***16***	***15***	***15***	***15***	***15***
Total Number of Multifamily Units in Analysis Zone	1832	1832	1832	1832	1832	1832	1832	1832	1832	1832	1832	1832	1832	1832
Number of Multifamily Family Units to be removed for ROW		***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***	***24***
Total Number of Mobile Home Units in Analysis Zone	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113
Number of Mobile Home Units to be removed for ROW		***34***	***34***	***34***	***34***	***36***	***4***	***4***	***34***	***34***	***34***	***34***	***34***	***34***
Total Number of Residential Acres in Analysis Zone	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3
Number of Acres of Residential Land removed for ROW		***39.3***	***39.2***	***39.3***	***39.2***	***39.4***	***31.6***	***31.5***	***44.6***	***44.5***	***39.2***	***39.1***	***39.2***	***39.1***
Total Number of Acres of Employment Land in Analysis Zone	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5	1182.5
Number of Acres of Employment Land removed for ROW		***132.5***	***116.9***	***131.1***	***115.5***	***137.2***	***140.9***	***125.3***	***137.9***	***122.3***	***133.6***	***118.0***	***131.5***	***115.9***
Total Number of Acres of Other Land in Analysis Zone	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7	550.7
Number of Acres of Other Land removed for ROW		***26.4***	***26.4***	***20.6***	***20.6***	***26.4***	***26.4***	***26.4***	***27.2***	***27.2***	***26.4***	***26.4***	***120.9***	***120.9***
Number of Acres of Existing Public ROW in Analysis Zone	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9

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INTRODUCTION

Project Location

The proposed project is located in the western, urbanized portion of Clackamas County in the vicinity of State Highway 212/224 (see Figure 1, Project Vicinity). The project limits extend approximately 4.9 miles from approximately 1,000 feet west of SE Johnson Road to SE 172nd Avenue, just beyond Rock Creek Junction where Highways 212 and 224 diverge.

Project Purpose and Need

The purpose of this project is to effectively address congestion and safety problems in the Highway 212/224 corridor between its interchange with Interstate 205 (I-205) and Rock Creek Junction, and to serve the growing demand for regional travel and access to the state highway system.

The need for the project is generated by the following factors:

- Highway 212/224 between I-205 and Rock Creek Junction is currently experiencing unacceptable levels of congestion and delay during the peak travel periods. By 2030, the projected traffic volume will exceed the volume that the existing four-lane arterial can be expected to handle at an acceptable level of service.
- By 2030, the numbers of households and jobs in the area served by this section of Highway 212/224 are expected to increase by 136 percent and 85 percent, respectively.
- Both the north and southbound weave sections of I-205 between SE 82nd Avenue and Highway 212/224 are approaching capacity, resulting in frequent stop-and-go movements, difficulty in changing lanes, and long queues forming because of minor incidents. By 2015, this section of I-205 is expected to exceed its design capacity and the extent of these stop-and-go movements may continue to grow if no action is taken. Some traffic traveling on the Milwaukie Expressway (Highway 224) heading east on Highway 212/224, as well as the reverse direction, may have to use either the above section of I-205 or the currently congested SE 82nd Avenue.
- Highway 212/224 near I-205 is ranked in the top 10 percent of state routes for vehicle crash rate. A vehicle crash rate of 3.10 was reported for this area during the 5-year period from 1998 through 2002. The comparable statewide facility rate is 2.47. The high crash rate is attributed to severe congestion and roadway deficiencies. Inadequate bicycle and pedestrian facilities reduce the safety and connectivity for these modes of travel in the project area.

Proposed Action

The proposed action would provide a new limited-access expressway between I-205 and the Rock Creek Junction. The facility would be comprised of six lanes, plus auxiliary lanes, and would include an improved interchange at I-205. This new expressway would become the designated State Highway 212/224, with the existing route reverting to a county arterial.

ALTERNATIVES

A no-build alternative and two build alternatives are being evaluated. Design options within each of the build alternatives are also being considered. Both build alternatives and all design options would incorporate an improved interchange at I-205 and an interchange at Rock Creek Junction. The alignment of the facility would generally follow a natural bluff-line that extends from Mt. Talbert east to Rock Creek on the north side of Highway 212/224. Associated improvements to address local circulation are also included.

Alternative 1: No-Build

The National Environmental Policy Act (NEPA), Oregon Department of Transportation (ODOT), and Federal Highway Administration (FHWA) guidelines require that a no-build option be evaluated. The No-Build Alternative (see Figure 2) would maintain the existing roadway except for committed improvements scheduled in ODOT's four-year Statewide Transportation Improvement Program (STIP) and Metro's Financially Constrained Projects listed in the Regional Transportation Plan (RTP). These listed projects include the following:

- Widen SE 82nd Avenue between Lawnfield Road and Highway 212/224.
- Improve the Highway 212 connection to Mather Road via SE 102nd Avenue and Industrial Way.
- Construct a new northerly extension of Highway 224 at Rock Creek Junction that curves east to connect to SE 162nd and SE 172nd Avenues.
- Create a climbing lane on Highway 212 between Rock Creek Junction and SE 172nd Avenue.
- Widen SE 172nd Avenue between Foster Road and Highway 212.
- Widen Highway 224 between Rock Creek Junction and the Carver Bridge.
- Widen the Carver Bridge to five lanes.

Alternative 2: Build with Midpoint Interchange

This alternative is distinguished by the inclusion of a midpoint interchange in the vicinity of SE 122nd Avenue, which would connect the expressway to the existing Highway 212/224 (see Figure 3).

Alternative 3: Build with No Midpoint Interchange

In contrast to Alternative 2, this alternative would not have a midpoint interchange, resulting in no access to the expressway between I-205 and Rock Creek Junction (see Figure 4).

Design Options

In addition to the two build alternatives described above, a number of design options are under consideration. These options are organized by geographic zones, as described below.

- ***Zone A*** is the westernmost portion of the corridor and represents the I-205 Interchange Area and the Lawnfield Business Area, with a western terminus aligned with SE Johnson Road and an eastern terminus bisecting Camp Withycombe. The north and south boundaries extend from Clackamas Town Center to south of SE Jennifer Street.

- ***Zone B*** is the "Midpoint Area" and extends from Camp Withycombe to SE 135th Avenue, north to Clackamas High School and south to SE Jennifer Street.

- ***Zone C*** has the same north and south boundaries as Zone B and extends from SE 135th Avenue east to the Rock Creek area.

- ***Zone D*** represents the eastern end of the corridor and stretches east to SE 172nd Avenue with the same north and south boundaries as Zones B and C.

Many design options were considered, but only a few were carried forward for study. The design options described below retain their original numbering system.

Design Option A-2: Modified 1996 Design

This design option, located in Zone A, would extend SE Lawnfield Road west and south toward SE Clackamas Road (see Figures 5, 6 and 7). A further change would be to route SE Mather Road west to the SE Lawnfield Road extension, instead of south along SE Industrial Way.

Design Option B-2: 1996 Split Interchange (Modified)

Located in Zone B, this design option for the midpoint interchange would incorporate a modified split interchange involving both SE 122nd Avenue and SE 135th Avenue. This option would be applicable only to Alternative 2, as displayed in Figures 5, 6, and 8.

Design Option C-2: Central Alignment

This design option, located in Zone C and displayed in Figures 5, 6, and 9, would adjust the corridor alignment in the vicinity of Rock Creek closer to the existing Highway 212/224 alignment.

Design Option C-3: Modified Follow Tree-Line Alignment

In contrast to Option C-2, this option would more closely follow the existing tree line to the north, as shown in Figures 5, 6, and 10.

Design Option D-2: Alignment through Knoll (Folded Diamond Interchange)

Instead of incorporating a folded diamond interchange north of a natural knoll in Zone D, this option would place the alignment through the knoll, as depicted in Figures 5, 6, and 11.

Design Option D-3: Single-Point Diamond Interchange

This design option replaces the folded diamond interchange with a single-point diamond- design interchange situated farther south in Zone D, as shown in Figures 5, 6, and 12.

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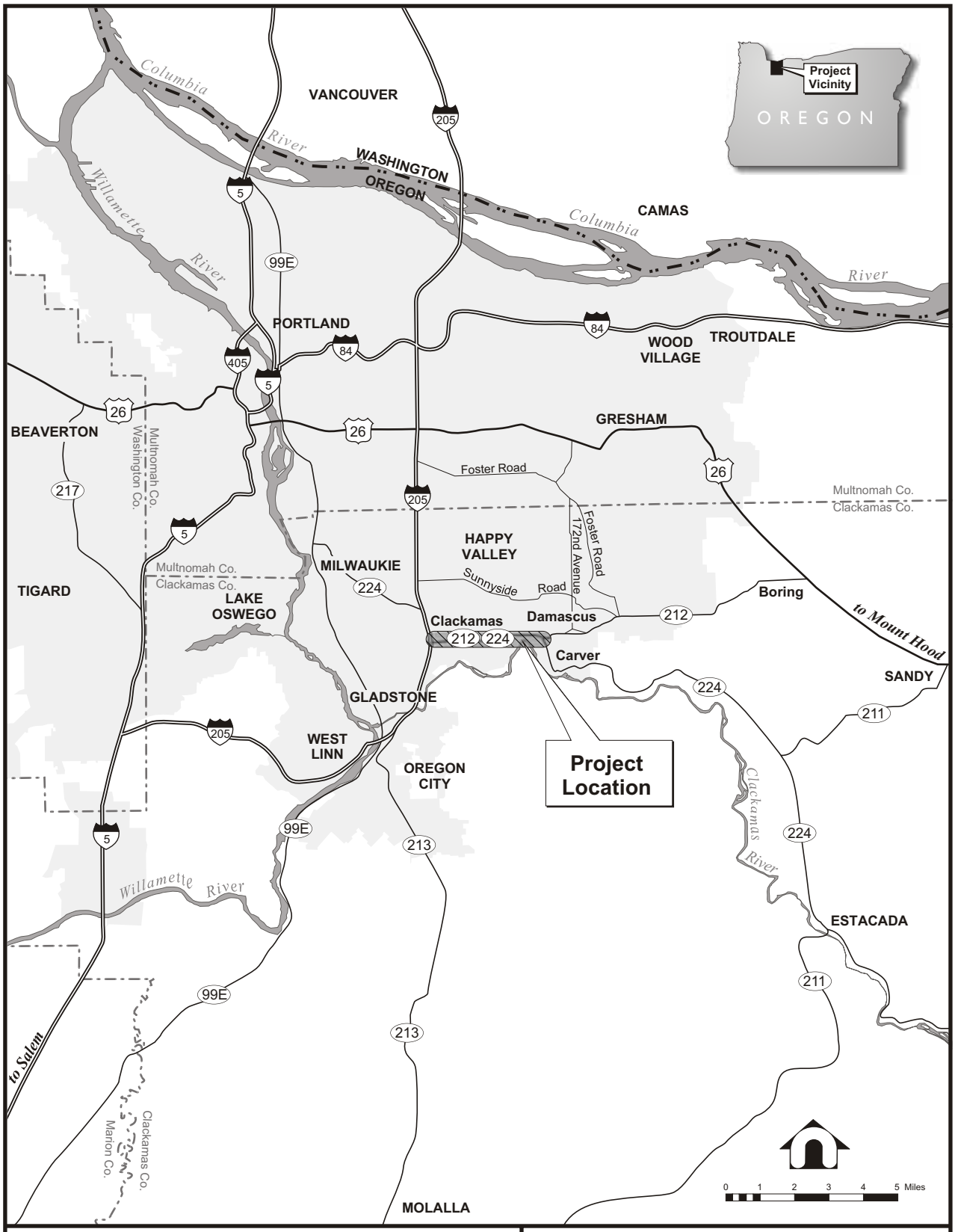


Legend

- County Boundary
- Project Location
- Rivers
- State Boundary
- Urban Growth Boundary

INCORPORATED CITY

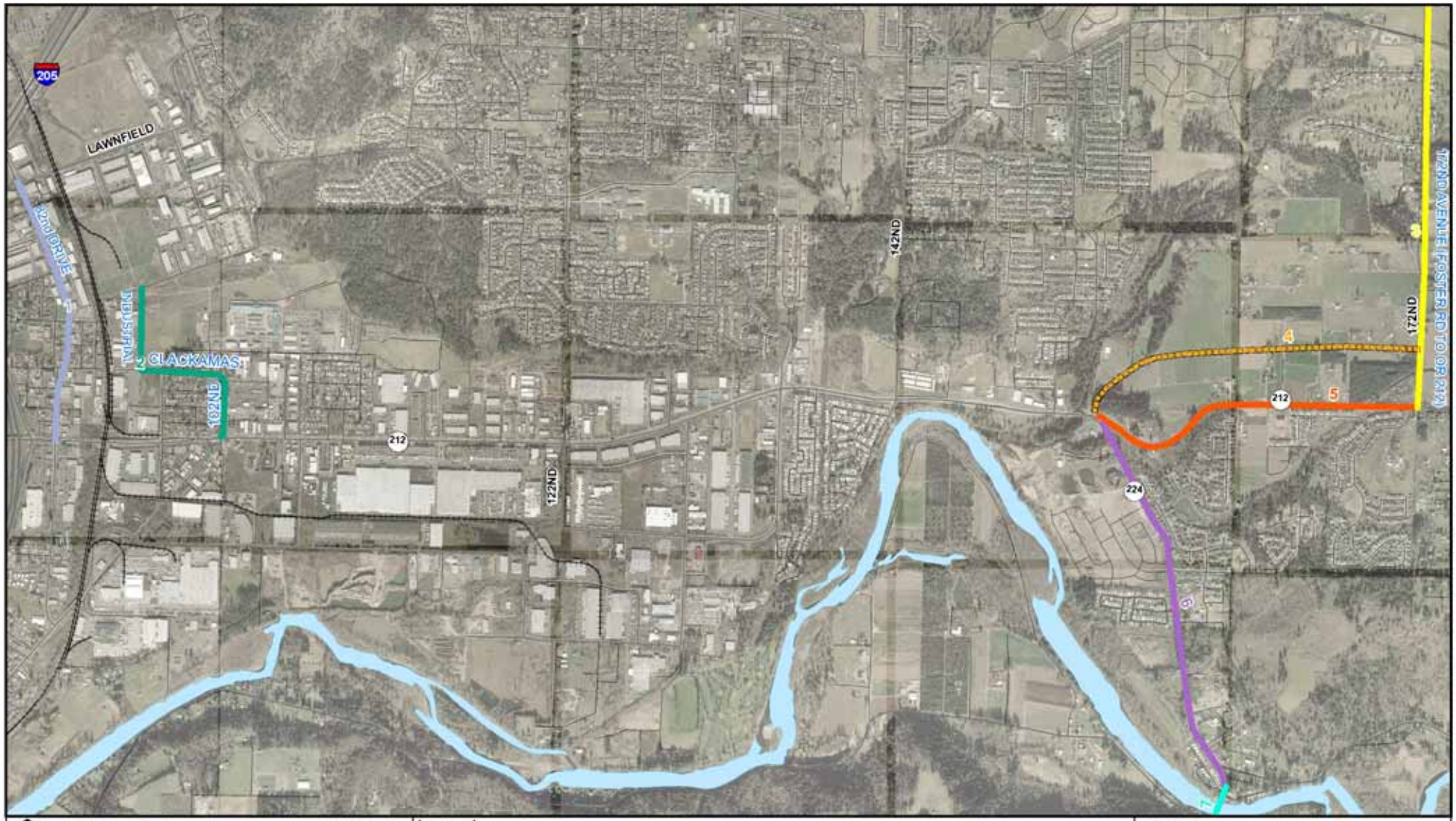
Unincorporated Community

- Interstate
- U.S. Highway
- State Highway
- Other Major Roads

Figure 1

Project Vicinity

Sunrise Project, I-205 to Rock Creek Junction



2,000 1,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR

Legend

Railroad

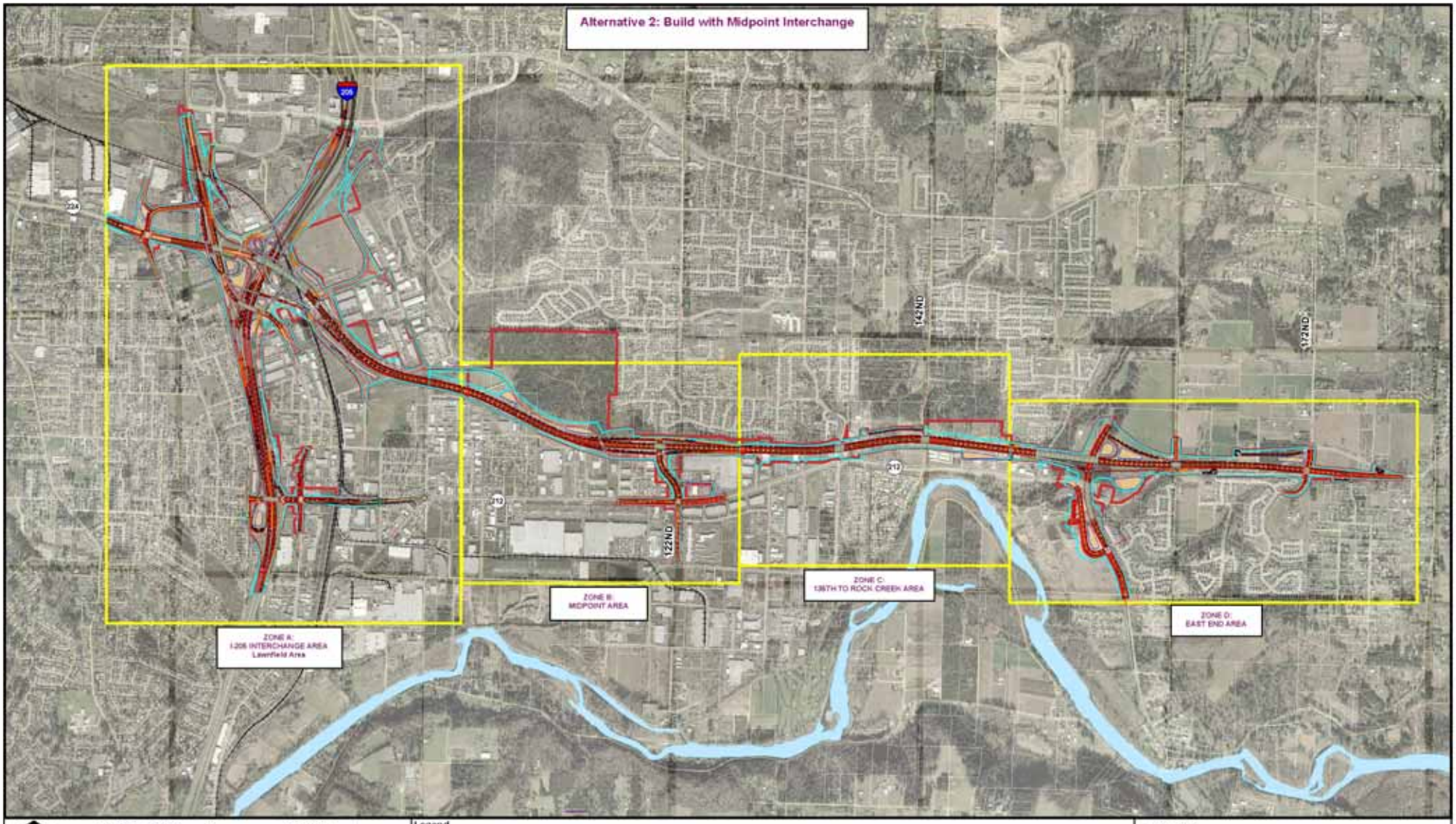
Future Funded Projects

1 Widen to 5 Lanes
2 Upgrade Roadway
3 Widen to 5 Lanes
4 New Arterial
5 Hwy 212 Widening
6 Hwy 224 Widening
7 Widen to 5 Lanes

Figure 2

Alternative 1: No-Build

Sunrise Project, I-205 to Rock Creek Junction



N

2,000 1,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR

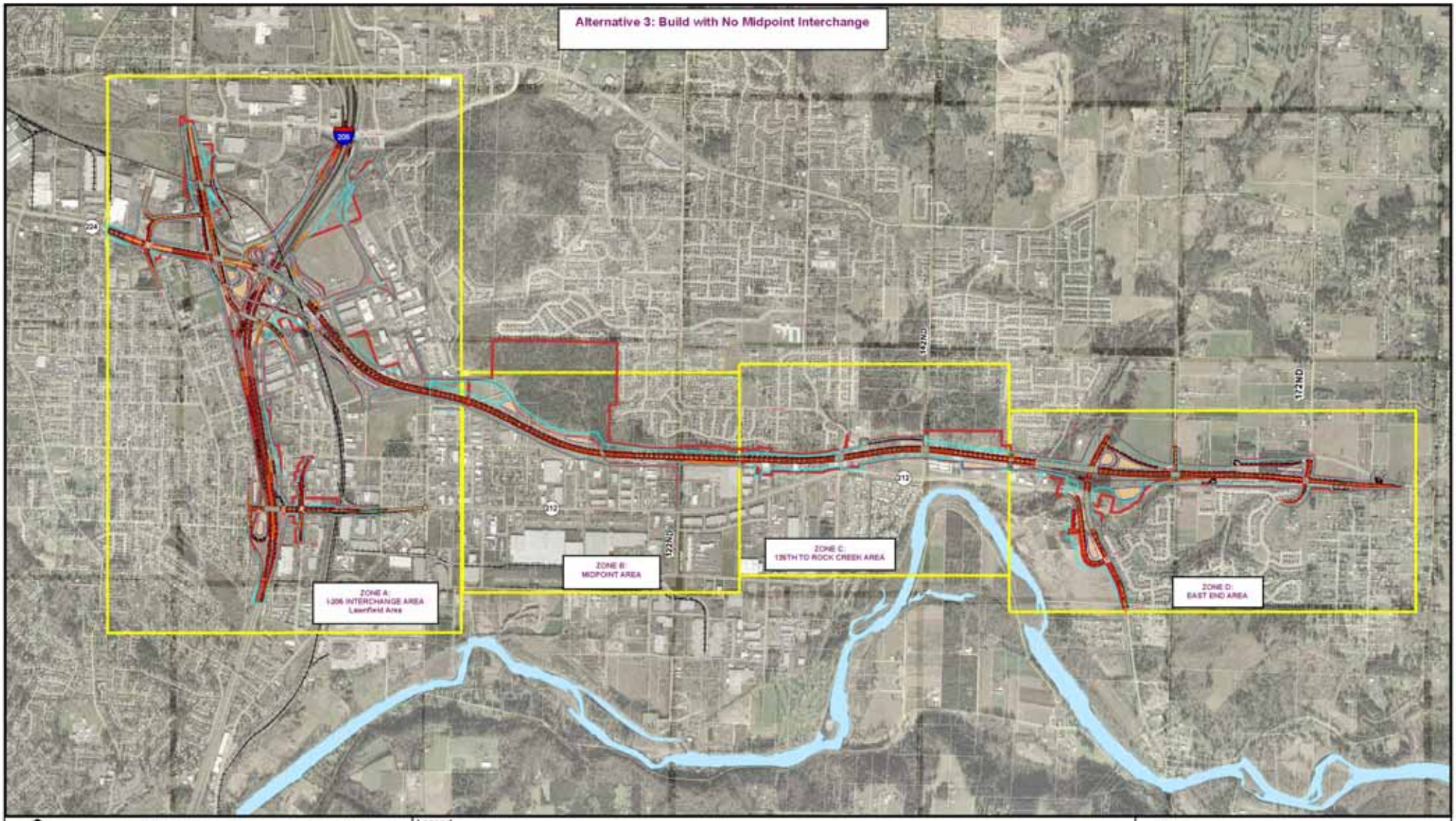
Legend

- Zone Boundary
- Construction Impact Line
- Lanelane
- Lane Striping
- Median
- Proposed Rights-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 3

Alternative 2: Build with Midpoint Interchange

Sunrise Project, I-205 to Rock Creek Junction



2,000 1,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR

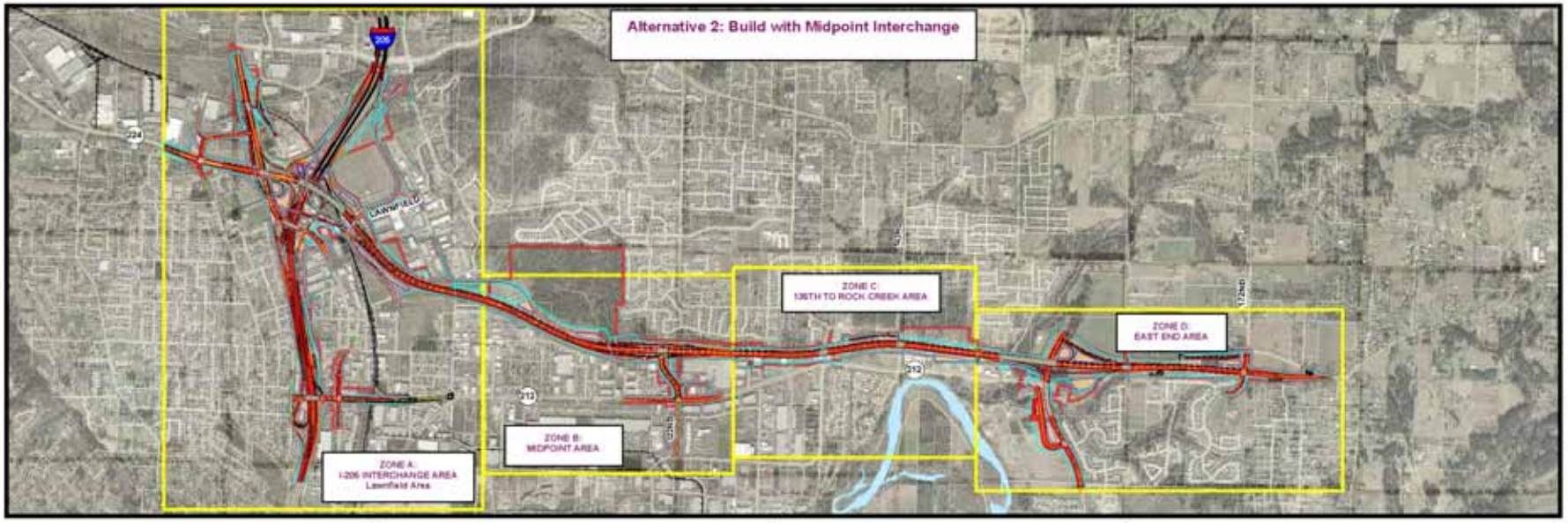
Legend

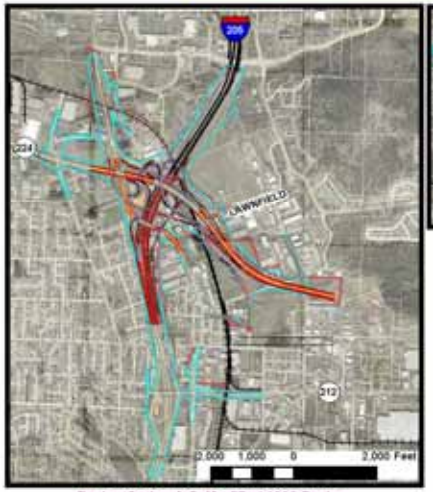
- Zone Boundary
- Construction Impact Line
- Lanelane
- Lane Striping
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 4

Alternative 3: Build with No Midpoint Interchange

Sunrise Project, I-205 to Rock Creek Junction





Design Option A-2: Modified 1996 Design

Design Option B-2: 1996 Split Interchange

Design Option C-2: Central Alignment

Design Option D-2: Alignment Through Knoll
(Folded Diamond Interchange)

Design Option C-3: Modified Follow Tree-Line Alignment

Design Option D-3: Single Point Diamond Interchange

N

3,000 1,500 0 3,000 Feet

Note: Scale bar represents main Alternative 2 data frame

Sources:
ODOT and Metro, Portland OR

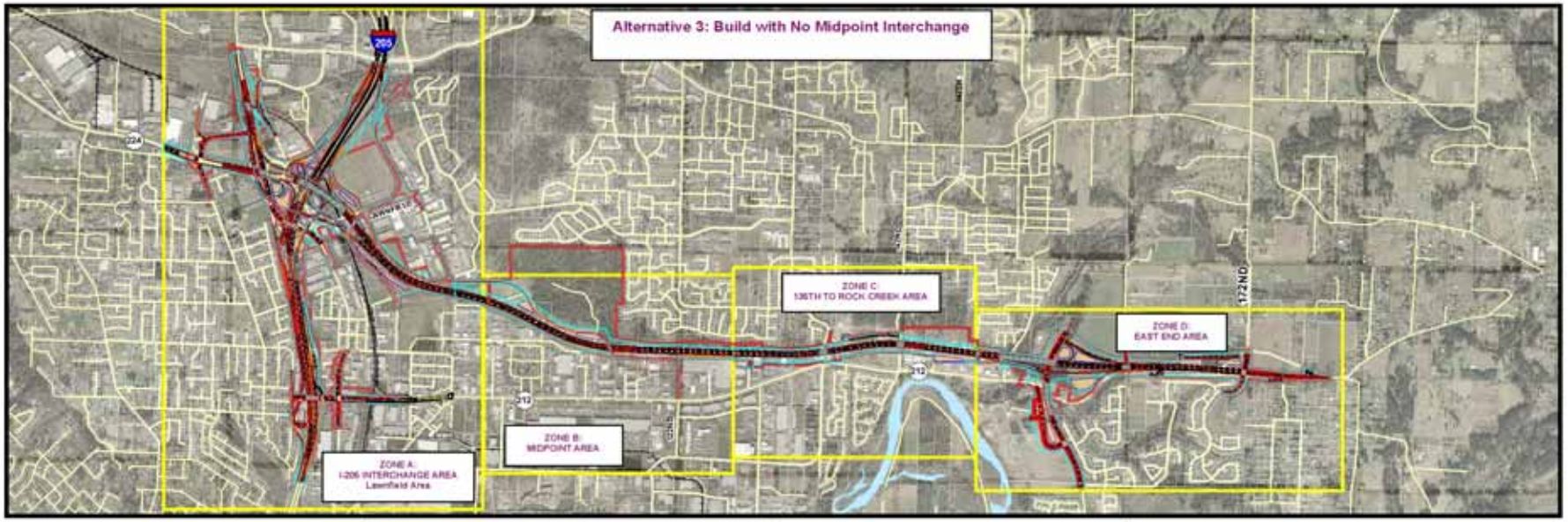
Legend

- Zone Boundary
- Construction Impact Line
- Lanelane
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 5

Alternative 2 with Design Options

Sunrise Project, I-205 to Rock Creek Junction



Design Option A2: Modified 1996 Design

Design Option C-2: Central Alignment

Design Option D-2: Alignment Through Knoll (Folded Diamond Interchange)

Design Option C-3: Modified Follow Tree-Line Alignment

Design Option D-3: Single-Point Diamond Interchange

3,000 1,500 0 3,000 Feet

Note: Scale bar represents main Alternative 3 data frame

Sources:
ODOT and Metro, Portland OR

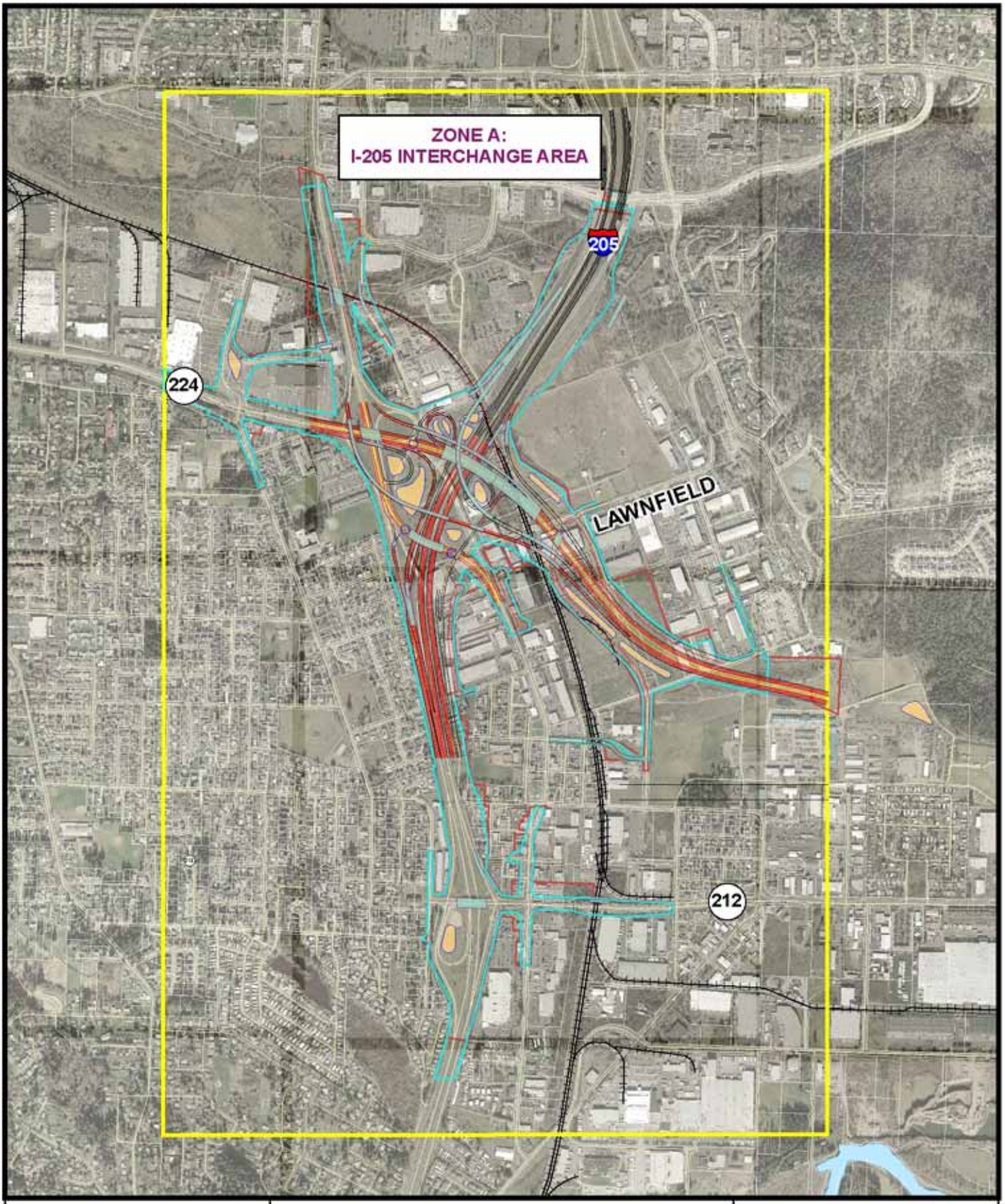
Legend

- Zone Boundary
- Construction Impact Line
- Lanelane
- Median
- Proposed Rights-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 6

Alternative 3 with Design Options

Sunrise Project, I-205 to Rock Creek Junction



810 405 0 810 Feet

Sources
ODOT and Metro, Portland OR

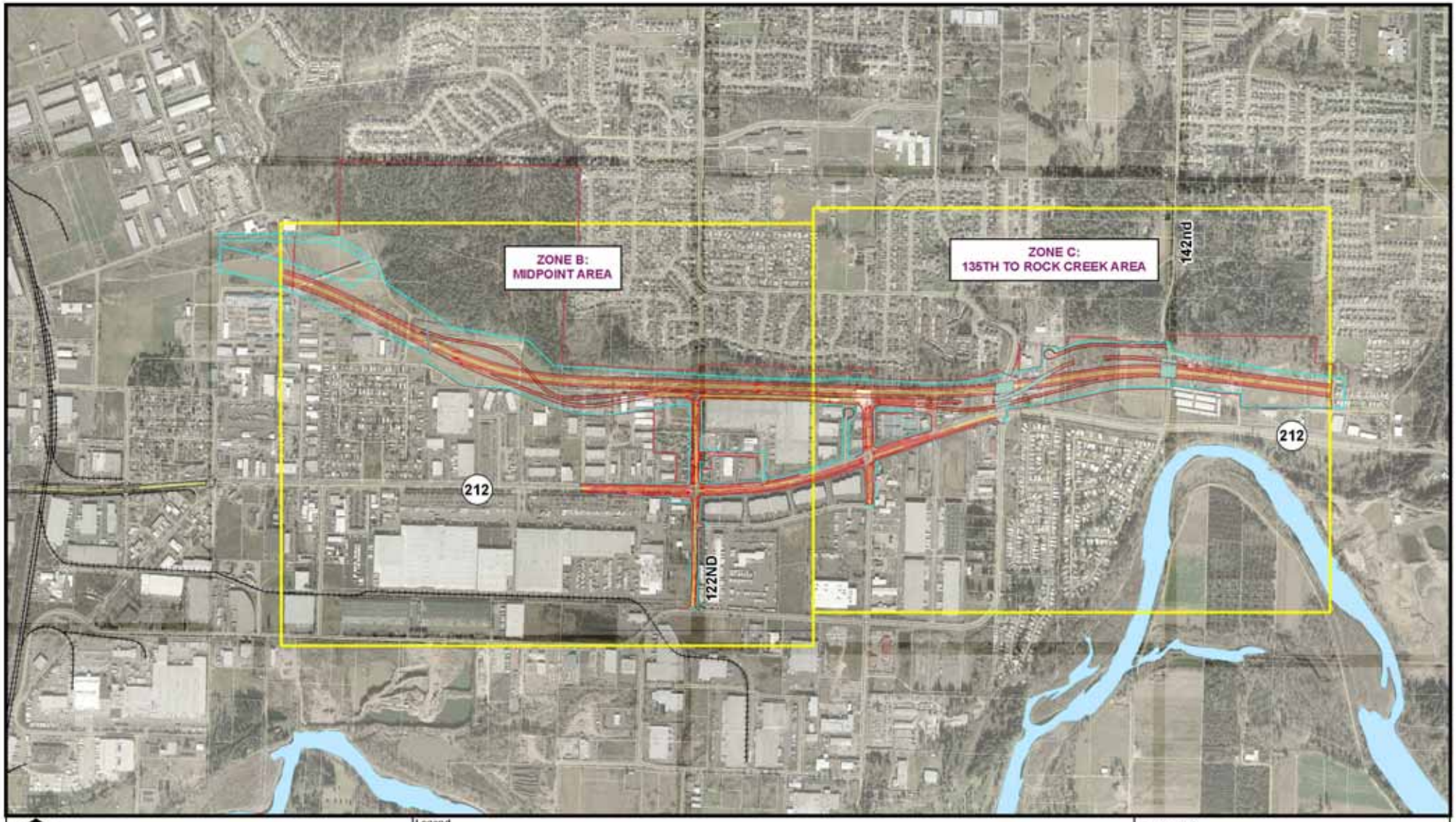
Legend

- Zone Boundary
- Construction Impact Line
- Laneline
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 7

Option A-2:
Modified 1996 Design

Sunrise Project, I-205 to Rock Creek Junction



950 475 0 950 Feet

Sources:
ODOT and Metro, Portland OR

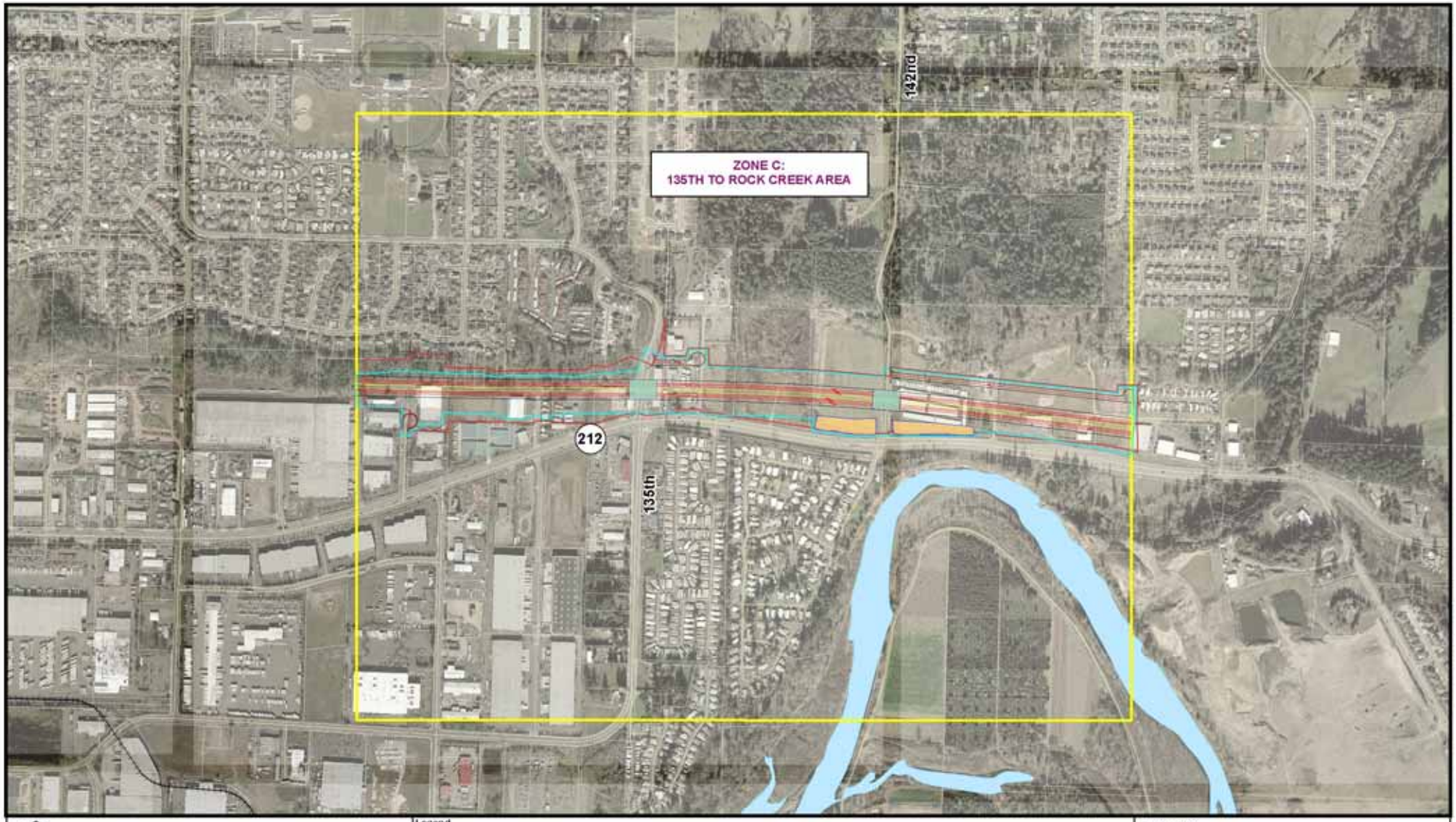
Legend

- Zone Boundary
- Construction Impact Line
- Lanelane
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 8

Option B-2: 1996 Split Interchange

Sunrise Project, I-205 to Rock Creek Junction



800 400 0 800 Feet

Sources:
ODOT and Metro, Portland OR

Legend
Zone Boundary
Construction Impact Line
Lanelane
Median
Proposed Right-Of-Way Line
Tax Lots
Wall
Water Quality/Retention
Railroad
Structure

Figure 9

Option C-2: Central Alignment

Sunrise Project, I-205 to Rock Creek Junction

800 400 0 800 Feet

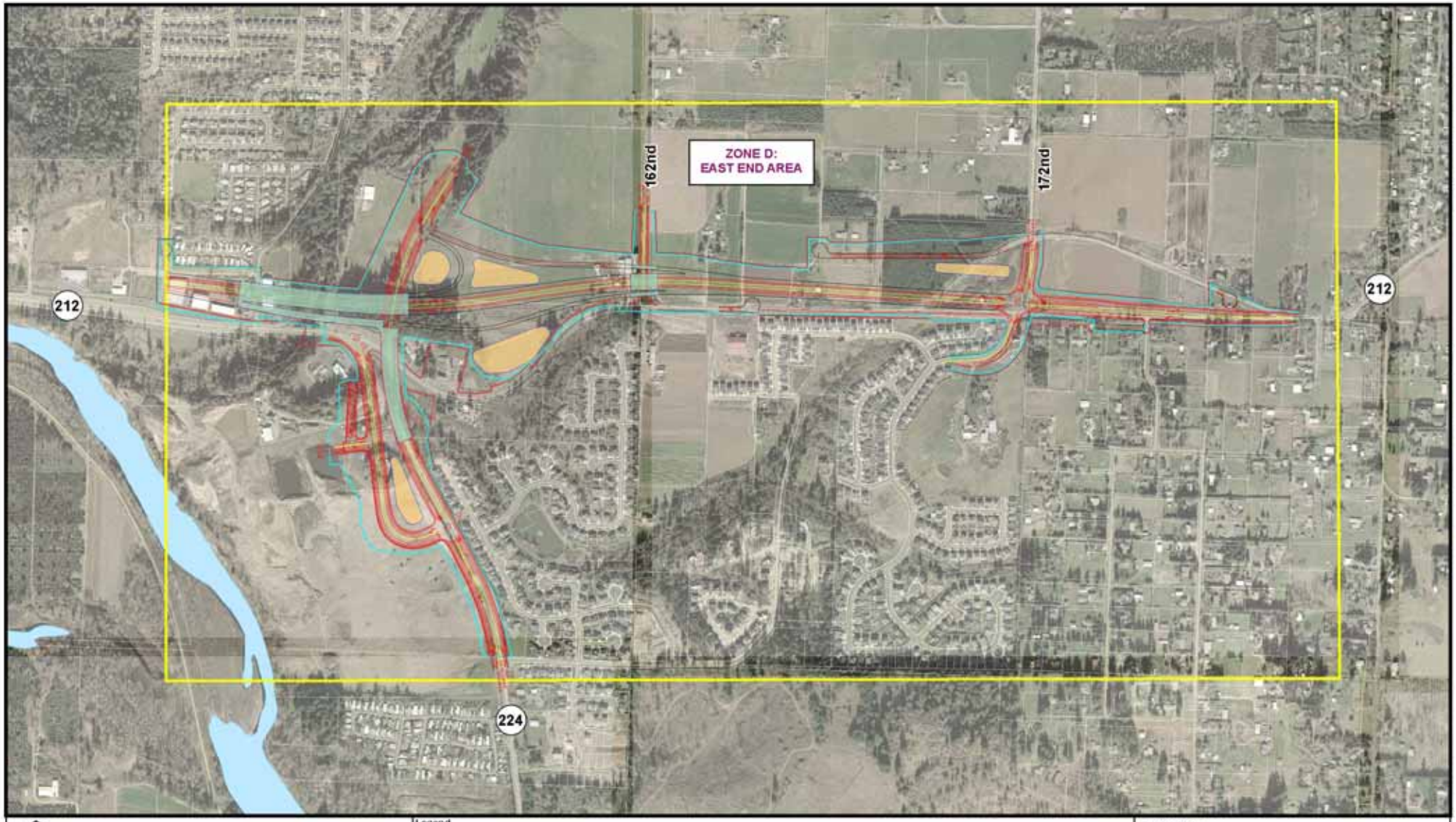
Sources:
ODOT and Metro, Portland OR

Legend
Zone Boundary
Construction Impact Line
Laneline
Median
Proposed Right-Of-Way Line
Tax Lots
Wall
Water Quality/Retention
Railroad
Structure

Figure 10

Option C-3: Modified Follow Tree-line Alignment

Sunrise Project, I-205 to Rock Creek Junction



800 400 0 800 Feet

Sources:
ODOT and Metro, Portland OR

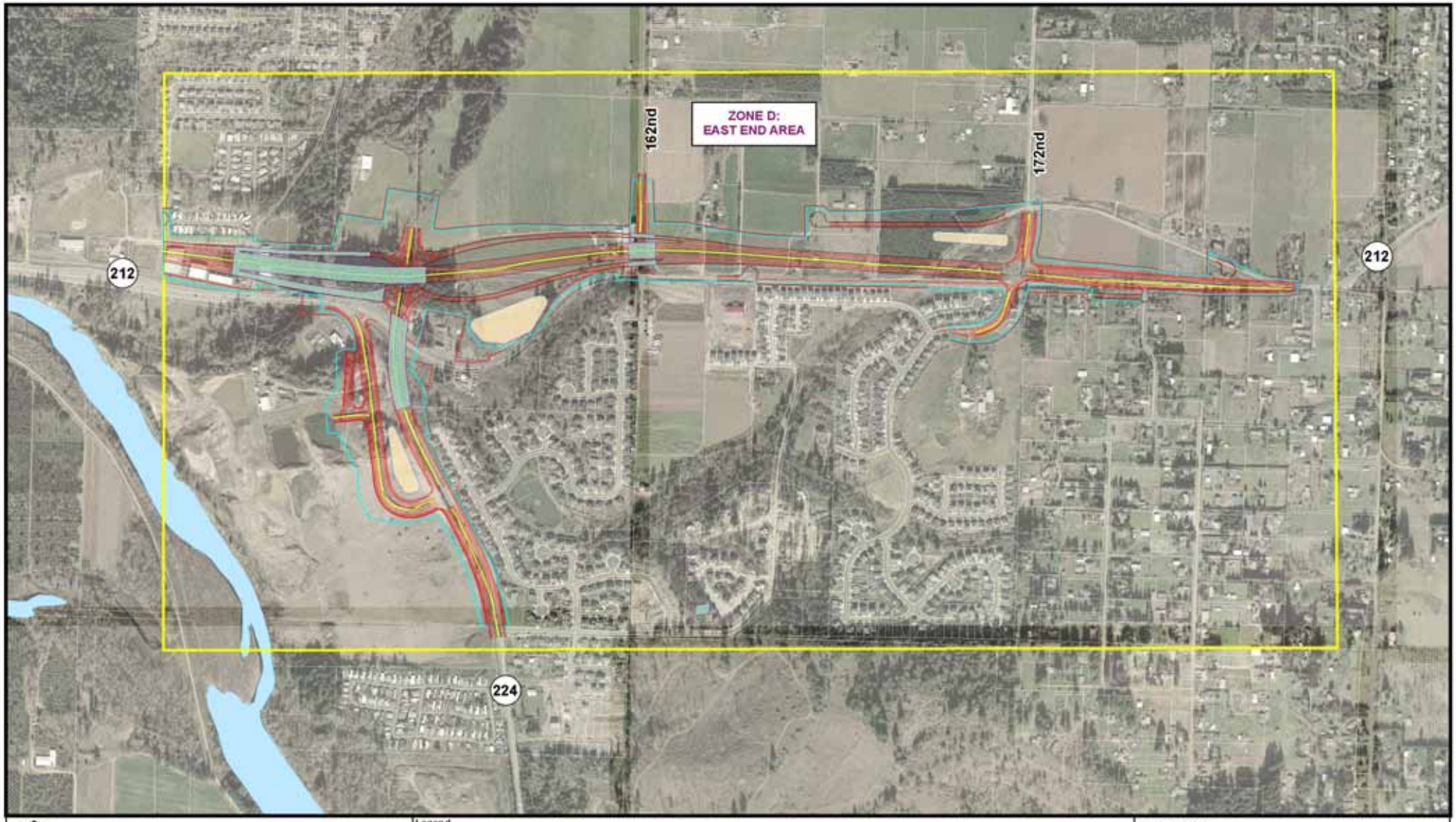
Legend

- Zone Boundary
- Construction Impact Line
- Laneline
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 11

Option D-2: Alignment Through Knoll (Folded Diamond Interchange)

Sunrise Project, I-205 to Rock Creek Junction



800 400 0 800 Feet

Sources:
ODOT and Metro, Portland OR

Legend

- Zone Boundary
- Construction Impact Line
- Laneline
- Median
- Proposed Right-Of-Way Line
- Tax Lots
- Wall
- Water Quality/Retention
- Railroad
- Structure

Figure 12

Option D-3: Single Point Diamond Interchange

Sunrise Project, I-205 to Rock Creek Junction

METHODOLOGY AND DATA SOURCES

Existing Land Use Inventory

In May 2006, Clackamas County staff completed a windshield survey to identify land uses on each lot in the land use study area. The land uses were initially classified into 39 specific land use categories and the inventory data entered into a GIS database. Prior to beginning the analysis of the land use impacts, the 39 land use categories were condensed into 19 more general land use categories to simplify the land use impacts analysis. Table A-1 in the appendix shows the original and consolidated land use categories developed from the inventory.

For the existing land use analysis, the primary land use for each lot was reported. Large tax lots that are mostly vacant land with a single dwelling and presumed capable of more intensive redevelopment were given a primary use classification of vacant with a single family dwelling listed as a secondary use. The number of units was recorded in a separate data field. As a result, the summary of land use produced a few cases where vacant land was identified as containing a residential unit.

GIS Analysis

The Clackamas County GIS was the primary tool used to quantify the land use impacts presented in this report. The GIS data files came from Clackamas County, Metro and ODOT. Two key sets of data files were particularly important to the analysis process: Future ROW and Construction Impact Area polygon shapefiles created by David Evans and Associates, Inc. (DEA) from the ODOT Sunrise Project Preliminary design option Computer Aided Design (CAD) drawings, and the 2004 ES 202 Employment data file obtained from Metro.

Clackamas County staff used their GIS to create a variety of data queries which were used in this report and in the Socioeconomics Technical Report. The data queries for the entire land use study area included the following:

- Total General Land Use Area (Acres) and Number of Housing Units by Analysis Zone
- Total Area of Vacant Land (Acres) by Zoning Category by Analysis Zone
- Total Assessed and Taxable Value by Land Use Type by Analysis Zone
- Total Average Annual Employment, Annual Payroll and Number of Business by NAICS Code by Analysis Zone
- Acres of land by Zoning Designation by Analysis Zone

Sunrise Project Preliminary ROW shapefiles were used to estimate the impacts of the project alternatives (1, 2 and 3) and design options. These polygon shapefiles were adjusted to match the boundaries of the Land Use Analysis Zones and then Intersected (a GIS operation) with the Land Use Shapefile, the 2004 Employment shapefile and the County Zoning Designation shapefile to produce the following estimates of the ROW impacts:

- Total General Land Use Area (Acres) Impacted and Number of Housing Units Impacted by Analysis Zone
- Total Assessed and Taxable Value Impacted by Land Use Type by Analysis Zone

- Total Average Annual Employment, Annual Payroll and Number of Business Impacted by NAICS Code by Analysis Zone
- Acres of land by Zoning Designation Impacted by Analysis Zone

Other Sources Consulted

In addition to the field inventory and the GIS analysis process, the County Staff consulted the following documents, plans and websites to obtain information on existing and future land uses in the land use study area and to determine the alternatives' consistency with adopted plans

- *1993 Draft Environmental Impact Statement for Sunrise Corridor Highway 212/224 (I-205 to US 26)*
- *1991 Sunrise Corridor Draft Environmental Impact Statement, Final Technical Report, Land Use*
- *Sunrise Project Environmental Baseline Report*
- *State Land Use Goals*
- State Transportation Planning Rule
- *Oregon Transportation Plan*
- Oregon Highway System map
  - *Draft Oregon Transportation Plan, July 19, 2006*
- *1999 Oregon Highway Plan*
- *2004 Regional Transportation Plan and Appendix, Metro, July 8, 2004*
- *Regional Framework Plan*
- *Urban Growth Management Functional Plan*
- *2040 Growth Concept*
- *Regional Trails and Greenways, Connecting Neighborhoods to Nature document*
- Metro Trails and Greenways Map
- Clackamas River North Bank Greenway written description
- *Clackamas County Comprehensive Plan* and Plan Map
- *Clackamas County Transportation System Plans*
- *Clackamas County Zoning and Development Ordinance*
- *Rock Creek Employment Study*
- Happy Valley planning requirements
- Damascus planning requirements
- *Damascus/Boring Concept Plan*
- North Clackamas Park District: Planning Documents
  - Existing Recreation Resources Map (NCPD Figure 4.2)
  - Figure 4.3, Facilities Plan, 2002 Master Plan Update
- Sabin-Schellenberg Occupational Skills Center web site

Additional information was obtained from the Clackamas County GIS System and the Permits Plus data base system for Clackamas County from January 2004 through June 2006.

The locations of access points to the road network information were determined through the land use inventory.

Definitions of Urban Areas

The following terms will be used to generally describe portions of the urban area in the vicinity of the Sunrise Project.

Land Use Study Area:

The Land Use Study Area is the primary analysis area for the Sunrise Project (Figure 13) and is divided into four zones (Zones A, B, C, and D). This area was identified by Clackamas County staff as encompassing the broad, general area affected by the Sunrise Project. The area to be analyzed is quite large (3,667 acres and 811.9 acres of existing public rights-of-way). Planned land uses in the study area are about one-third industrial, about one-third residential and about one-third other (e.g., commercial, rural, open space).

The Land Use Study Area includes areas that have been undergoing suburban development for more than 30 years, areas that have been developed very recently, and areas that were planned for rural uses until they were brought into the region's urban growth boundary (UGB) in 2002. It contains the historic community of Clackamas, the large Clackamas Industrial Area, and the southern edge of the Clackamas Regional Center. Two cities, Happy Valley and Damascus, have annexed portions of the study area in the past few years and are just beginning to assert their influence. Three other cities, Milwaukie, Johnson City, and Gladstone, are nearby neighbors.

Newly Urbanized Area:

This term applies to those areas that were within the UGB prior to 2002, and have recently been, or are currently being, redeveloped according to the urban plan designation. It includes the area covered by the Pleasant Valley Concept Plan and the Rock Creek Concept Plan.

Recent UGB Expansion Area:

This term refers to those areas added to the UGB in 2002 or later. At the time of this report, those areas are undergoing planning for urban development, but their land use patterns are still rural. This includes the area covered by the Damascus-Boring Concept Plan, the Beaver Creek Concept Plan, the Park Place Concept Plan, and the Springwater Concept Plan.

Future Expansion Area for the UGB:

At the time of this report, there are several areas outside the UGB that are presumed to be included in it at some future date. They include those areas to the east of Damascus and to the south of the Clackamas River that are assumed, by the 2006 Metro 2030 Household and Employment Forecast, to be added in the regional UGB by 2030.

AFFECTED ENVIRONMENT

Project Area Setting

The Project Area is located in the northwest corner of Clackamas County, mostly within the Metro's (Portland metropolitan region) Urban Growth Boundary (UGB), which defines the limits of urban development and urban services. Clackamas County is one of three Oregon counties (including Multnomah and Washington) that converge within the Metro area. The County encompasses 1,879 square miles and the vast majority of the county's land area is rural, with most residential and business activities located in northwest portion of the County.

The analysis of land use impacts is focused within a Land Use Study Area (Figure 13) - a secondary impact area that includes more land than would be directly impacted, and includes land areas that could be indirectly affected by the project. The Land Use Study Area is generally situated between Pheasant Court on the west and Tong Road on the east, and between Sunnyside Road and Mather Road on the north, and Jennifer Street and Eckert Road on the south. The Land Use Study Area is 3,667.2 acres and is divided into four zones for analysis. Zone A is the westernmost section of the project, and Zone D is the easternmost section. These zones correspond to the Sunrise Project build alternative and design option variations.

Three jurisdictions have responsibility for land use planning and zoning within the land use study area. Most of the land use study area is in unincorporated Clackamas County while some of the eastern portion of the study area has been annexed to the cities of Happy Valley and Damascus in the past few years. The cities of Gladstone, Johnson City, and Milwaukie are in the project vicinity, but outside the Land Use Study Area.

The study area contains the Clackamas Industrial Area and its subareas (the Lawnfield Industrial Area and the Milwaukie Expressway Industrial Area); the southern edge of the Clackamas Regional Center (a Metro-designated area); unincorporated areas that are primarily residential; and undeveloped agricultural and open space uses. Figure 18 identifies Community Features. Figure 17 identifies the Business Districts.

Natural features in the Land Use Study Area include Mount Talbert and the Clackamas River Bluffs, an undeveloped, heavily wooded, steep slope that lies along the northern boundary of the study area. The Clackamas River meanders roughly parallel to and south of the southern boundary of the study area, except for one "elbow" of the river that cuts north into the study area between 142nd Avenue and 152nd Avenue. The area south of this river elbow is outside the UGB. Several small tributaries of the river run through the study area.

I-205 is aligned north/south through the western end of the study area and Highway 212/224 is aligned east/west through the length of the study area. Highway 224, also known as OR 224, is coincident with the (so called) Milwaukie Expressway, and with I-205 between the Milwaukie Expressway/I-205 interchange and the I-205/Clackamas Interchange. Highway 224 is then coincident with Highway 212 (OR 212) between the I-205/Clackamas Interchange and the Rock

Creek Junction. Highway 224 turns south, continuing to Carver, Estacada, and beyond. Highway 212 exists only between the I-205/Clackamas Interchange and Highway 26.

Existing Land Uses

Figure 14 depicts existing land uses in the study area that were inventoried by County staff in May 2006. Table 3 reports acreages of different land uses in the study area. Employment uses dominate, with 32 percent of the land area in industrial, office, and warehouse uses. Residential use takes up about a third of the land use area with multi-family, single family, and manufactured home park development. The remaining land area is occupied by parks, public utilities, community uses such as churches and schools, and rights-of-way. About 20 percent, or 811 acres, is vacant land. The Comprehensive Plan designations and the Zoning are shown on Figures 15 and 16 respectively. Generally, the existing land uses correspond to the adopted plan and zoning designations. Community features and Unique Land Uses are shown on Figure 18. These include parks, a large storm water / flood control facility, neighborhoods, schools, mobile home parks, unique land uses and natural features.

Table 2 Existing Land Uses in the Land Use Study Area

Land Use Category	Total Acres	Percent Of Total
Agricultural Uses	73.3	2%
Church	8.1	0%
Commercial	260.5	7%
Community Uses	3.1	0%
Emergency Services	7.0	0%
Industrial	327.9	9%
Military	78.1	2%
Mobile Home Park	174.2	5%
Multi Family Dwellings	119.6	3%
Office Warehouse	74.0	2%
Office	68.0	2%
Open Space	84.2	2%
Park	88.6	2%
ROW	21.2	1%
Schools	111.7	3%
Single Family Dwelling	828.5	23%
Utilities	75.5	2%
Vacant	811.8	22%
Warehouse	452.1	12%
Total	**3,667.2**	**100%**

Existing Conditions by Analysis Zone

Zone A: Existing Conditions

Zone A, the largest zones in the study area, contains 1,588.4 acres. It occupies the westernmost portion of the corridor, including land as far east as approximately SE 106th Avenue, as shown on Figure 13. It includes the I-205 Interchange area. The northern boundary is SE Sunnyside Road, and the south is SE Scottstree Way and SE Mangan Drive. Because the area is large and complex, existing uses are divided into five areas.

West of I-205, North of Highway 224 and South of the Union Pacific Railroad (UPRR):

The land west of I-205 immediately north of Highway 224 is zoned and developed primarily for employment uses. Commercial zoning on Highway 224 allows for more highway-oriented development. Light industrial and general industrial zones are applied to the remaining area around Highway 224, and Development includes warehouses, distribution centers and retail uses such as Precision Castparts, McFarlane Bark, Kmart and Lowe's. Calvary Chapel Southeast church is located in a complex of office warehouses in this sub-area, near Johnson Road.

The commercial and industrial uses directly on the north side of Highway 224 are bounded on their north by the Union Pacific Railroad (UPRR) mainline, used for both freight and passenger (Amtrak) rail travel; it serves the Portland area as well as major urban areas further north and south.

The Ambler Road area between 82nd Ave., I-205, and the Union Pacific Railroad (UPRR), and originally the northern extension of the Clackamas community, was separated from the original community when I-205 was built. An area immediately north of I-205 zoned for commercial use was purchased by the state and is currently open space.

Unique Land Uses

The small Clackamas Cemetery is between Ambler Road and 82nd Avenue.

West Of I-205, North of the Railroad:

The northern portion is part of the Clackamas Regional Center (CRC) and is zoned for and developed in retail and office use. Uses include industrial and office uses such Clackamas County Service Center, Costco, Precision Castparts, Oregon State Crime Lab, Clackamas Promenade shopping center, Monarch and Marriott Hotels, and the Oregon Institute of Technology/Clackamas Community College.

The North Clackamas Parks and Recreation District (NCPRD) owns and operates North Clackamas Aquatic Park and an associated neighborhood park near Harmony Road at Price-Fuller Road. These are adjacent to the planned North Clackamas District Park. The large parcel between these two parks and the UPRR, which includes a portion of Mt. Scott Creek and is zoned Open Space Management, is identified on the Existing Recreation Resources Map (NCPD Figure 4.2) as a Natural Resource Area. The I-205 Corridor Trail (Metro Trails and Greenways

Map) is a multi-use trail running adjacent to I-205. This major north-south trail links Oregon City, Gladstone, Portland and Vancouver.

West of I-205, south of Highway 224:

Immediately south of Highway 224, land is zoned for, and primarily developed as, office and multi-family residential uses, with a few single family residences along Johnson Road. Lake Crest Apartments (120 units) is a low income apartment complex located at Lake Road next to I-205. Autumn Woods Condominiums (60 units) and another small condominium (10-unit) are located on Lake Road west of Johnson Road. To the south are two school sites that make up the Sabin-Schellenberg Skill Center: Sabin Center on the west side of Johnson Road and Schellenberg Center on the east side. They are part of North Clackamas School District's professional technical education program. The school recreation areas are zoned Open Space Management.

South of the two school sites the area is predominately planned and zoned for low density residential uses. Interspersed with single-family residential uses are duplexes; two churches on Johnson Road; Clackamas Bible Church and Portland Victory Fellowship; Approximately 6 to 8 acres remains in agricultural use. Hearthwood Village Mobile Home Park (104 units) occupies the southernmost parcel in this sub-area. A storage facility and a Comfort Suites Motel are located at the intersection of Highways 212/224 and I-205.

Unique Land Uses

A transmission tower for KZNY 1010, a Spanish-speaking AM radio station owned by Bustos Media Oregon LLC is located on the west side of Johnson Road at Jannsen Road.

East of I-205

The historic north-south arterial in the community of Clackamas, 82nd Drive, is located only a few blocks east of I-205 in this section. The UPRR also traverses this area north/south generally a few blocks east of 82nd Drive. The area east of I-205 has been divided north and south by Mather Road and Jannsen Road.

East of I-205, north of Mather Road and Jannsen Road:

An area east of I-205, north of Mather Road and Jannsen Road, is planned for a mixture of uses – business park, industrial, office and residential.

The largest concentration of multi-family residential development in the study area is in the northeast portion of Zone A, encircling the southeastern base of Mt. Talbert. This area is the site of four apartment complexes: Crown Court Apartments (336 units), Lawnfield Gardens (174 units), Squires Court (225 units), and Townhouses with a View (200 units). The area north of Mather and Jannsen Roads is planned for a mixture of uses – business park, industrial, office and residential. West of 97th Avenue is commonly called the Lawnfield Industrial Area and is primarily industrial with a few offices.

Unique Land Uses

There are two large properties with unique uses: the KEX radio towers and the former Northwest Pipe and Casing Superfund site (Figure 18).

The KEX facility is the only radio station providing Class A service in Oregon. Class A stations are equipped to provide regional emergency broadcast services 24 hours a day. The siting of such towers depends on very specific conditions. The structures can easily be disturbed by construction and other disruptive activities, resulting in the need to recalibrate or reconfigure their transmission capabilities, a potentially complicated and expensive process. Because of the sensitivity of the transmission infrastructure, no development can occur near the site. During the process of preparing the 1993 Draft Environmental Impact Statement for Sunrise Corridor Highway 212/224 (I-205 to US 26), ODOT worked with attorneys for KEX to establish a series of mitigation measures to alleviate impacts to KEX's signal and the associated facility.

The Northwest Pipe and Casing Superfund site is described in the Hazardous Materials Technical Report. Clean up of the site under the auspices of the Oregon Department of Environmental Quality began in 2001. Contaminated soil has been removed and in 2003 an engineered cap of clean soil placed over areas where surface materials contained pollutants at concentrations exceeding the cleanup goals. The engineered cap was placed, in part, to reduce the spread of contamination in the subsurface soil and groundwater beneath the site and to protect personnel that are allowed access to the site. Future construction of the Sunrise Project could result in the modification or disturbance of the engineered cap, requiring extensive coordination between regulatory agencies, the site owner, and engineers during design to protect the integrity of the current protective cap.

Parks and Trails

Metro and the North Clackamas Parks and Recreation District (NCPRD) own and operates a 185-acre natural area north of Camp Withycombe on the upper portions of Mount Talbert, providing a greenspace, trail system, and wildlife corridor. Although the primary access to this park is Sunnyside Road, Mather Road provides a secondary access. Mount Talbert constitutes a portion of the so-called Boring Lava Field, which is a group of extinct volcanoes and lava domes in north Clackamas and east Multnomah counties. Mount Talbert is the largest undeveloped butte in northern Clackamas County and possesses substantial regional natural resources values. Clackamas County Comprehensive Plan Chapter III (Map III-2 Scenic and Distinctive Resource Areas) designate Mount Talbert as a Scenic and Distinctive Resource Area. Mt. Talbert itself has a Low Density Residential plan designation.

East of I-205, south of Mather Road and Jannsen Road:

The historic core of the Clackamas community sits between I-205 and the railroad, along 82nd Drive south of Mather Road. This remnant of the historic community of Clackamas is zoned for commercial, industrial, business park, and multi-family categories. Existing uses include single-family homes, and several multi-family units located on the south side of Jannsen Road. Community, retail, office, and industrial uses dominate 82nd Drive. Other uses in the area include the historic Christian Life Church and Eastridge Church offices, Clackamas US Post

Office, and the Clackamas Elementary School. The school playing fields are zoned Open Space Management.

Developments south of Highway 212/224 include two large service and retail developments -- Fred Meyer and Greenhouse Square shopping center. Other businesses include US Bank, Taco Bell and Elmer's Restaurants, Clackamas Inn motel, and Fantasy Video, Clackamas River Water District office, and Northwest Veterinary Specialists. Further south The Crossing Apartments (96 units) are on the east side of 82nd Drive and Watkins Park Apartments (159 units) are on the west side. Two older manufactured home parks, Frontier Mobile Village (42 units) and The Golden Rule Mobile Home Park (70 units), are located at the southern end of 82nd Drive, next to I-205.

East of the railroad this area is mostly zoned for industrial uses with a cluster of commercial zoning at the intersection of Evelyn Street and Highway 212/224. Existing development is a mixture of uses: mostly industrial, a few offices, some commercial uses clustering along Highway 212/224, a block of mostly older single-family residences, and two small utility sites.

Immediately south of Highway 212/224, a spur of the UPRR turns and runs east/west, providing direct rail access for many businesses.

Unique Land Uses

Located at the southern base of Mount Talbert, Camp Withycombe is a collection of National Defense facilities constructed from 1903 to the late 1930s, many having historical designations. The facility has served as a rifle range and training ground for the Oregon National Guard for more than 80 years and still serves as a rifle range (used for target practice by various agencies such as the State Police), a supply depot, and a repair facility for equipment used by the National Guard (See Community Features – Figure 18).

ODOT Portion Of Camp Withycombe

The western portion of the bluff, a hillside that was formerly part of Camp Withycombe military reservation, is now owned by ODOT. The steep slope is considered to be a wildlife corridor. The ODOT parcel lies partially in Zone A and partially in Zone B. The Zone A portion totals 35.38 acres. The Zone B portion totals 121.09 acres. The Sunrise Project mainline runs its entire east-west length of the ODOT parcel in the area below the forested bluff.

Recent development approvals since January 2004:

- Costco Comprehensive Plan Map Amendment and Zone Change, south side of Sunnybrook Boulevard, near the intersection with Oak Bluff Road. (Applicant: Costco) As part of an expansion Costco received approval for a Comprehensive Plan map amendment that changed 3.71 acres from Regional Center Office to Retail Commercial and a Zone change from RCO (Regional Center Office) to RTL (Retail Commercial).
- Comprehensive Plan Map Amendment and Zone Change, industrial to commercial, SW corner of Highway 212/224 and Evelyn Street. (Applicant: Terry Emmert) Map amendment on 0.73 acres from Light Industrial to General Commercial and a corresponding zone change from I-2 to C-3.

- Zone Change and 11-lot residential subdivision, Roots Road, south of Highway 212/224 and west of I-205 (Applicant: Jeco Investments Inc.) A 2.32-acre site on was re-zoned from R-10 to R-7
- Conditional Use Permit for a church, Johnson Boulevard. (Applicant: Portland Victory Fellowship).
- Conditional Use Permits to install portable classrooms at Schellenberg Skill Center, Johnson Boulevard. (Applicant: North Clackamas School District)

Zone B: Existing Conditions

Zone B extends from approximately SE 106th Avenue to SE 135th Avenue, as shown on Figure 13. The northern boundary is Mather Road and Summers Lane, and the southern boundary is SE Jennifer Street. Zones B is topographically divided by a section of the Clackamas River Bluffs, a steep, narrow forested corridor generally running east-west along the northern edge of the build alternatives. Metro and resource agencies consider the bluff area to be a designated Wildlife Corridor. Zone B is the second largest of the four zones, containing 837.2 acres.

Zoning

The Bluff generally divides the zoning as well. The area located north of the bluff in Zone B is primarily zoned for low density residential uses, with a small amount of higher density residential zoning on Hubbard Road. The school playing fields are zoned Open Space Management.

South of the bluff, south and east of Camp Withycombe, is the Clackamas Industrial Area, an area zoned primarily for industrial uses, except for medium density residential zoning on an existing mobile home park.

Existing Land Use

The area located north of the bluff in Zone B is at the southern edge of the Sunnyside area and has undergone significant residential development in the past 25 years. The western portion of the bluff in Zone B includes a hillside that was formerly part of Camp Withycombe, which was purchased by ODOT for the previously proposed alignment of the Sunrise Project. Except for the Camp Withycombe/ODOT parcel, the area north of the bluff developed primarily as single-family residential land uses. There are two apartment complexes, Eastview Commons (aka Village at Sunrise -- 88 units), at Hubbard Road and 122nd Avenue, and Stone Ridge Apartments (200 units), at Hubbard Road and 132nd Avenue. Indian Bluffs Mobile Home Park (100 units) surrounds Eastview Commons on the north and east. A large school complex between 122nd Avenue and 132nd Avenue north of SE Hubbard Road includes the Sunrise Middle School, Clackamas High School and Sabin Schellenberg Agricultural Center, part of which is zoned Open Space Management. Eastridge Church holds services at the Sunrise Middle School.

South of the bluff, south and east of Camp Withycombe, the area is planned and developed with a variety of industrial and commercial uses including warehouse and distribution, construction-related businesses, automobile repair and storage, and business parks for commercial, light industrial and manufacturing uses. Many of these industrial uses have frontage on and direct access to Highway 212/224.

The Oak Acres Mobile Home Park, an older, 272-unit mobile home park with vacant spaces, is located on the north side of the highway at the western edge of Zone B. Another very small unnamed manufactured home park (6 units) is located at the east end of Zone B, north of Highway 212/224.

South of Highway 212/224, the UPRR runs east/west in Zone B, providing direct rail access for many businesses. Several large wholesale food service businesses including Safeway, and Fred Meyer, Tree of Life, Mikey's European Foods, Interstate Meat Distributor, McCabes Foods, and Cross Creek operate large warehouse and distribution facilities in the Clackamas Industrial area. The Clackamas County Fire District No. 1 Training Academy Campus is located south of Highway 212/224 on SE 130th Avenue.

Recent development approvals since January 2004:

Sunrise Middle School and Clackamas High School received Conditional Use Permits to install portable classrooms.

Zone C Existing Conditions

Zone C contains 484.9 acres and extends eastward from SE 135th Avenue to Rock Creek, as shown on Figure 13. Like Zone B, Zone C is topographically divided by a section of the Clackamas River Bluffs. The southern edge of the Sunnyside residential area continues eastward along the bluff. South of the bluff is a continuation of the Clackamas Industrial Area.

Existing Zoning

Zone C has residential zoning north of the bluffs and a mix of other zoning south of the bluffs, as shown on Figure 16. Zone C is also the area where zoning reflects the transition from the Clackamas Industrial Area to primarily rural residential to the east. Some FU10 zoning remains in the residential areas north of the bluff that have not yet received urban services.

South of the bluff, industrial zoning lines the north side of Highway 212/224. South of the highway the area is zoned for commercial uses at the intersection of SE 135th Avenue and Highway 212/224, and for medium density residential uses east of that. South of the Clackamas River, outside the UGB, the area is zoned Exclusive Farm Use.

Existing Land Use

See Figure 14 for Existing Land Uses. The area located directly north of the bluff is at the southern edge of the Sunnyside area, where current land uses are primarily single family residential. Two small mobile home parks are sited on the hillside at the eastern edge of Zone C, Sunrise Village (30 spaces) and Ridgewood Mobile Home Park (48 spaces).

Land Uses south of the bluff in Zone C generally transition from the industrial uses in the western portion, to residential uses in the eastern portion. Light industrial uses are developed along the northern side of Highway 212/224. South of the highway are three older manufactured home parks, Shadowbrook Mobile Home Park (156 units), Riverbend Mobile Home Park (205 units), and Clackamas River Village Mobile Home Park (80 units), located south of Highway 212/224, on the northwestern bank of the Clackamas River where it elbows north. One small

unnamed cluster of manufactured homes (6 units) is located north of Highway 212/224. A large area located south of the Clackamas River and outside the UGB is in agricultural use.

Recent development approvals since January 2004:

Some rezoning and redevelopment has recently been approved in this residential area.

- Comprehensive Plan Map Amendment and Zone Change from industrial to commercial use, NE corner of Highway 212/224 and 142nd Avenue. (Applicant: Terry Emmert). A 25.22 acre property (including 10.46 acres of wetlands) acre site received approval for a Comprehensive Plan Map Amendment from Light Industrial to General Commercial, with a corresponding zone change from I-2 to C-3. The Board Order on the decision was issued in September 2007.
- Conditional Use Permit for 8 million-gallon water reservoir north of Highway 212/224 and west of 152nd Avenue. (Applicant: Clackamas River Water District)
- 76-lot Planned Unit Development, east of 142nd Avenue and north of Highway 212/224. (Applicant: Wenzel Park) A zone change converted 19.5acres from FU-10 (Future Urbanizable, 10-acre minimum lot size) to R-8.5 (Urban Low Density Residential, 8,500-square foot average lot size).
- 7-lot residential subdivision, east of SE 142nd Avenue and south of SE Charjan Street. (Applicant: John Pahlke). 1.65 acres re-zoned from FU-10 to R-8.5.
- 17-lot single-family Planned Unit Development, west of 142ndAvenue, north of Highway 212/224. (Applicant: Mt Hood Properties)--. 4.76 acres rezoned from FU-10 to R-7.
- Design Review for a youth and adult sports center, NW intersection of Highway 212/224 and 132nd Avenue.

Zone D: Existing Conditions

Zone D, containing 762 acres, extends eastward from 152nd Avenue on the north side of Highway 212, as shown on Figure 13. . Near Rock Creek Junction the Clackamas River turns southward toward Carver; south of the highway the Zone D western boundary is the Clackamas River. Zone D includes the December 2002 UGB expansion area, which is east of Rock Creek on the north side of Highway 212 and east of 172nd on the south side. Most of Zone D has already been, or will be, annexed to either Happy Valley or Damascus.

Existing Zoning

Zoning in Zone D is complicated by fact that part of the area has been in the UGB for more than 25 years and was planned and zoned for urban uses by Clackamas County. Properties for which urban services had not been provided were zoned Future Urban (FU-10). East of this pre-2002 UGB, the area was planned and zoned for rural residential and agricultural uses. In December 2002, the UGB was expanded to include the remainder of Zone D and beyond. Soon after, the cities of Happy Valley and Damascus annexed most of the area, including some lands inside the UGB before 2002. Both Happy Valley and Damascus are in the process of adopting new Comprehensive Plan and zoning designations. However, until they do, the existing county zoning, including rural and agricultural zoning in the 2002 UGB expansion area, apply in Zone D.

On the north side of Highway 212, there are several larger parcels with agricultural and rural residential plan designations. South of Highway 212 and west of Highway 224 is zoned mostly

Future Urban and urban residential. East of Highway 224 and south of Highway 212 the zoning transitions from urban residential zones near Highway 224 to rural residential further east, in the areas brought into the UGB in 2002.

Existing Land Use

North of Highway 212:

On the north side of Highway 212, there are several larger parcels that retain agricultural and rural residential uses. They are currently mostly fallow or vacant.

South of Highway 212:

Most land uses south of Highway 212 are single family residential or vacant. Part of the area east of Highway 224 and south of Highway 212 has urban services enabling suburban level single-family residential development interspersed with larger parcels yet to redevelop. Belair Estates is the cluster of subdivisions on the easternmost edge of Area D, south of Highway 212. This is an older rural subdivision, with access limited to SE Belair Drive and SE Tong Road except for 4 houses at the northwestern edge that have access to Highway 212 via a common frontage road/driveway. Anderegg Park is a newer subdivision (built in the late 1990s, early 2000s) directly across from SE 172nd on the south side of Highway 212. This neighborhood currently accesses Highway 212 at a signalized T-intersection with Anderegg Parkway, which is planed to become a 4-way intersection with 172nd in 2008. Orchard Lake is a cluster of newer subdivisions accessing Highway 224 south of the Rock Creek intersection. Several open space tracts and Orchard Lake have been dedicated as part of Orchard Lake Subdivision. They connect to form a larger system of green space. Between the Clackamas River and Highway 224 is a reclaimed surface mining operation that has recently been re-zoned Medium and Low Density Residential and is currently being developed into single-family and townhouse residential uses.

Arne's Country Market is located on the southwest corner at Rock Creek Junction, between the highway and the river. Valley View Ceramic Supply factory operates on a 19-acre parcel just south of Highway 212 on the west side of 172nd Avenue. East of 172nd Avenue, the area recently brought into the UGB is still planned and developed as rural residential uses. The new Sunnyside Community Church is located at approximately SE 165th Avenue and Highway 212 at the east end of the study area. The North Clackamas Parks District owns a site for a future neighborhood park along Highway 212 in the Anderegg Park subdivision.

Unique Land Uses

Williams Pipeline regional gas distribution site is a joint facility with NW Natural located west of the intersection of Armstrong Circle and Highway 212.

Recent approvals since January 2004:

- 192-lot residential subdivision (Windswept Waters), between Highway 224 and the Clackamas River, south of the Rock Creek intersection and north of Carver. In 2003 the Comprehensive Plan designation was changed from Medium Density Residential to Low Density Residential. In 2005 the zone was changed from FU-10 to a combination of R-7

(Low Density Residential), MR-1 (Medium Density Residential), and OSM (Open Space Management). At the time of this report, the site is under construction.

- 144 single-family townhomes residential lots (River Rim), approximately 1,000 feet south of the Highway 212/224 intersection (Rock Creek Interchange).
- 25- or 21-lot planned unit development subdivision (Garrette Pointe No. 2), on SE Eckert Lane. A 4.77 acre parcel received a zone change from FU-10 to R-10 and R-7 or R-8.5 zones.
- 18-lot subdivision (John Lisac), north side of SE Eckert Lane. A zone change from FU-10 to R-8.5 was approved for the 5.78 acre site.
- 5-lot subdivision **(**Lory Lees-Whalen) on the east side of 152nd Avenue. Zone change on the 1.15-acre parcel from FU-10 to R-8.5.
- WES is currently constructing a new sewer trunk line beside Rock Creek and plans to construct sewer lines in 172nd Avenue as part of a road construction project in 2007 and 2008. These sewer projects are the first scheduled extension of sewer service into the new urban areas east of the land use study area to support the developing urban land use in these areas. Details about impacts to utilities can be found in the Utilities Technical Report.
- Two water service providers have current plans to expand water service to the growing urban area, and areas east of the Land Use Study area. Clackamas River Water has proposed a 6-million-gallon water reservoir to be located about 800 feet west of SE 152nd Drive above the bluff and near its eastern edge. Sunrise Water Authority plans a number of improvements in the area, including a complex of improvements on SE 172nd Ave. just north of SE Armstrong Circle. Details about impacts to utilities can be found in the Utilities Technical Report.

Planned Development

Parks and Trails

The North Clackamas Parks and Recreation District (NCPRD) provides parks in the land use study area, and NCPRD and Metro identify planned parks, greenspaces, natural resources areas, and trails or linear parks. (See Figure 18) The North Clackamas Parks and Recreation District provides parks, trails and recreation programs for unincorporated Clackamas County and Happy Valley, and for a portion of the City of Damascus in the land use study area. The park district has several existing parks and additional planned parks and trails, as identified in the North Clackamas Parks District Plan and on North Clackamas Parks District Facilities Plan, 2002 Master Plan Update (Figure 4.3).

Planned Parks

The NCPRD Parks and Recreation Master Plan identifies a number of planned parks in the land use study area for the Sunrise Project:

- The **North Clackamas District Park** is a planned urban natural area park intended to be located on lands currently owned by the Clackamas County Development Agency located along Mt. Scott Creek between SE 82nd Avenue and SE Lake Road. It is currently used for a large storm water detention facility, which will be a joint use if a park is developed on the site.

- **Orchard Summit** is located near SE 162nd Avenue and south of Highway 212 at the east end of the Sunrise Project land use study area. It is described in the Parks Plan as a possible future neighborhood park and natural resources park.
- **Highland Summit**, located near Mather Road, will be managed as a natural area.
- A site for a future neighborhood park in the **Anderegg Park** subdivision in the far eastern portion of the land use study area is owned by the park district.

Planned Trails

NCPRD has a number of linear parks (trails) identified in the North Clackamas Parks District, Facilities Plan, 2002 Master Plan Update (Figure 4.3). Before decisions are made about trail alignment and appropriate use, there will be a master planning process.

In that document six proposed linear park segments in the study area are listed as high priority:

- A remaining segment of the I-205 Corridor bike-pedestrian trail, plus a small tangent along Dean Creek
- The Parks District plans a linear park through and beyond the Mt. Scott Creek natural resources area, beginning far west of Harmony Road and crossing SE 82nd Avenue, I-205 and SE 92nd Avenue. It leaves the study area, circling around the north and east sides of Mt. Talbert, eventually joining the Bluffs Trail.
- The Bluffs Trail extends from a few blocks west of SE 122nd Avenue to the south and east until it joins a north-south trail just east of 142nd Avenue. The trail eventually intersects the Clackamas River Greenway Trail at the point of the river's elbow.

Other trails are conceptually illustrated as Very Long Term on the NCPD Facilities Plan in the following locations:

- North of Highway 212/224 in the vicinity of Rock Creek, running north-south then turning more east-west along stream corridors south of Highway 212/224.
- Heading south from the Bluffs Trail near the Clackamas High School, cutting through the school site then turning west along the bluffs, connecting to Camp Withycombe.
- Heading south from Mt. Talbert park through Camp Withycombe, continuing south across Highway 212/224 and heading southwestward along Cow Creek, eventually joining both the I-205 bike-pedestrian path and the Clackamas River Greenway.
- Running north from North Clackamas Greenway eventually paralleling Phillips Creek, meandering on either side of 82nd Avenue.

Metro has a limited parks and greenspaces program that manages some facilities and works with local providers such as the NCPRD to provide parks and greenspaces of regional significance. The following trails and corridors are described in the Metro Publication *Regional Trails and Greenways, Connecting Neighborhoods to Nature*. The numbers are Metro identification numbers and correspond to the *Metro Trails and Greenways Map.* For the most part these match up roughly with the trails included in the North Clackamas Parks District Plan. Before decisions are made about trail alignment and appropriate use, there will be a master planning process that will more closely identify the actual location of the facility.

The following regional trails are proposed by Metro in the land use study area:

32. Phillips Creek Trail - A proposed trail loop around Clackamas Town Center, this trail will connect the I-205 Corridor Trail and the North Clackamas Greenway, following Phillips Creek.

49. East Buttes Power Line Corridor Trail - Proposed as part of the Pleasant Valley Concept Plan, this trail will connect from the Springwater Corridor south to the Clackamas River Greenway following an existing powerline right of way. It also will connect to the southern end of the Gresham to Fairview Trail.

51. Scouter Mountain Trail - This trail will provide a larger loop than the East Buttes Loop connecting Powell Butte at the Springwater Corridor to Scouter Mountain to the south and back again to the Springwater further to the east.

52. Clackamas Bluffs Trail - Beginning at Mt. Talbert, this route will extend south and east along the bluffs of the Clackamas River. It will join the Clackamas River Greenway at the mouth of Rock Creek. Other than Mt. Talbert Park, no land has been acquired for this trail.

53. Clackamas River Trail - A water trail running from Estacada west to the confluence of the Clackamas and Willamette rivers.

Regional Trails and Greenways, Connecting Neighborhoods to Nature contains the following list of proposed regional trail corridors in the land use study area:

29. Clackamas River Greenway - This greenway will provide limited public access on the north side of the Clackamas River from the Willamette River east to Barton Park. Some land has been acquired, but none in the study area.

33. North Clackamas Greenway - Beginning at the Milwaukie waterfront, this greenway will generally follow Kellogg Creek and Mt. Scott Creek east to the I-205 Trail and end at the Mt. Scott Trail.

Planned Road Improvements

Major road facilities tend to follow development, not necessarily lead it or cause it, in large part because the state road financing system is relatively weak in Oregon. The local transportation systems are generally created by land developers and would be a major factor in the provision of mobility during the next 20 to 30 years. The major transportation system would be partially developed using SDC monies derived from the land development process. While this moderately expanded major transportation system will not be adequate to meet all of the transportation demands for the next 20 to 30 years, it will be adequate to keep the land development process moving during that time period. This future arterial road system will be of particular importance to the movement of freight in and through the southeast quadrant of the region's urban area.

The following road projects on the major road system are expected or are assumed to be built over the next 20 years. These roads generally will be built following the existing alignments of major roads. The expansion of these roads is assumed to impact primarily the adjacent land uses,

many of which are currently undeveloped lands, in farm or forest uses or minimal residential development. Closer to the Sunrise Project, these roads are located in areas that are substantially developed. The expansion of these roads is assumed to require expansion of the existing rights-of-way and the associated impacts on adjoining land uses.

Road projects identified in the following sections are assumed to be constructed to arterial standards during the next 20 years near the Sunrise Project under all alternatives. These road projects are predominately located in areas that are substantially developed or about to be developed in the next few years. Expanded roads would center on the existing facilities and efforts made to minimize the impacts of the road widening on adjoining land uses.

- Widen SE 82nd Drive between Lawnfield Road and Highway 212/224.
- Improve Highway 212 connection to Mather Road via 102nd Avenue and Industrial Way.
- Create a new northerly extension of Highway 224 at Rock Creek Junction that curves east to connect to SE 162nd Avenue and SE 172nd Avenue.
- Widen SE 172nd Avenue between Foster Road and Highway 212.
- Widen Highway 224 between Rock Creek Junction and Carver Bridge.
- Widen Carver Bridge to five lanes.
- Improve 82nd Drive between Gladstone and Highway 212/224.
- Create Sunnybrook Boulevard Extension between 82nd Avenue and Harmony Road.
- Widen Highway 212/224, west bound between SE 102nd Avenue and I-205.

These following road projects are identified as the major transportation backbone for development in the Damascus/Boring Concept Plan Area. Most of these projects are expected to follow the existing road alignments or form new connections between existing roads that are currently not connected. It is assumed that they will be constructed as major arterials to serve this area over the next 20 years under all alternatives and that the impacts to the adjoining land uses will be minimized to the greatest extent practical.

- 242nd Avenue - Highway 212 to Palmquist Road
- Highway 212 - Rock Creek to 257th Avenue
- Sunnyside Road extension - 172nd Avenue to 242nd Avenue
- 232nd Avenue extension - Highway. 212 to Borges Road.
- 190th Avenue extension - Tillstrom Road. to 172nd Avenue

The following road projects are identified as the major transportation backbone for development in the area south of the Clackamas River and east of Oregon City. This area has been identified as the probable location of a major expansion of the regional UGB in 15 to 20 years. All of these assumed major road facilities follow existing road corridors and are assumed to become future major arterials. The one exception to this is the new arterial crossing of the Clackamas River, which will connect the Gladstone/I-205 Interchange to Forsythe Road. The impact of this new arterial connection cannot be estimated at this time due to lack of information. These road expansions are assumed under all alternatives:

- Gronlund Road
- Bradley Road
- Forsythe Road

- Holcomb Boulevard
- Clackamas River Drive
- Highway 213 (south of I-205)
- A new crossing of the Clackamas River connecting the I-205/Gladstone interchange with Clackamas River Drive

The road projects and assumed road facilities discussed above are all indirectly related to the Sunrise project. However these projects / road expansions are not necessarily dependant upon the decision as to whether or not the Sunrise Project is constructed. They will provide much of the needed transportation infrastructure that will be necessary to support the future growth in the Sunrise Project area and in the future urban areas to the east and the south. By themselves, these projects will not be able to meet all of the transportation needs in the southeast quadrant of the urban region. The regional freight traffic movement is anticipated to be concentrated on these roads. These truck movements will be impacted by the future volumes of residential traffic using the arterial road system.

Planned Developments

The following development projects have been identified by Zone.

Zone A Planned Development

Clackamas Town Center, adjacent to the northern boundary of Zone A, is currently being expanded.

Clackamas Community College has planned the creation of a Nurses Training Program at the site at 82nd Avenue and Harmony Road.

I-205 Light Rail. The I-205 Light Rail is a major transit project that is expected to provide an increased level of transit service in the vicinity of the Sunrise Project. The I-205 LRT line is expect to open in 2009 and would end at a redeveloped transit center at Clackamas Town Center Transit Center located to the north of the land use study area.

Oregon Iron Works Railroad Spur. Oregon Iron Works has recently proposed the construction of a rail spur that would connect to their facility to the south of Lawnfield Road. This facility would reduce the company's dependence on trucks as a means of transportation for moving large and heavy loads.

Camp Withycombe. The Oregon Military Department plans to add new facilities at Camp Withycombe for a new 41st Brigade headquarters and logistics center and a new Armed Forces Readiness Center.

Zone B Planned Developments

There are no known planned developments in Zone B.

Zone C Planned Development

Zoning Changes. The County has tentatively approved a zone change of 25.22 acre property from Industrial to Commercial at 15251 SE 142nd Avenue. The site of the proposed zone change contains both local and jurisdictional wetlands totaling 10.46 acres. The Board of County Commissioner issued the final land use order on this zone change in September 2007. .

Zone D Planned Development

A Providence Medical Center and Hospital is planned for a site to the east of Rock Creek. The project would construct a full-service regional medical center over a 40-year period with up to 5,000 employees, and a building inventory of 1.6 million gross square feet. This site is expected to contain a 400 to 500-bed hospital and related inpatient facilities, medical office, an outpatient facility, and up to 4,430 structured parking spaces.

The Rock Creek Employment area is a future employment area identified by Metro as Regionally Significant when it expanded the Urban Growth Boundary in 2002. The Damascus/Boring Concept Plan confirmed the importance of this area as an employment center, and Happy Valley is currently in the process of completing their Comprehensive Plan for the Rock Creek Employment area. The Concept Plan defines the Rock Creek Employment area as north of Highway 212 and east of Rock Creek to SE 172nd Avenue.

Past Major Projects and Policy Decisions

There are two major transportation projects, I-205 and the Milwaukie Expressway, and two major land use policy decisions that set the stage for the development that occurred in the last 30 years in the Sunrise Project area (including the Clackamas Regional Center and the Clackamas Industrial Area). During this time, this portion of the urban area has become a major regional commercial, employment, manufacturing and wholesale distribution area. At the same time these decisions also supported the growth of the adjoining residential areas in urban unincorporated Clackamas County and the City of Happy Valley. The transportation and land use patterns that evolved as a result of these decisions provide the impetus for the future growth to the south and east of the existing developed urban area.

Major Highway Projects

I-205 and the Milwaukie Expressway, both built in the 1970's, are two of the three main transportation corridors in the northwestern urban area of Clackamas County. These highways are the transportation and freight backbone of the regional transportation system in the southeastern portion of the metropolitan area. The other main transportation corridor in this area is McLoughlin Boulevard (US 99E).

The largest of these major highway projects was the construction of the I-205 freeway, formally known as Oregon Highway No. 64, the East Portland Freeway. This 26.6 mile-long route started at I-5 at Tualatin, traveled through Clackamas and Multnomah Counties to the Columbia River and then continued through Clack County to rejoin I-5 just north of Vancouver, Washington. I-205 is one of the most heavily traveled portions of the Interstate System in Oregon and is a major truck route for the region. Average daily traffic on I-205 near its connection with I-84 in Portland is 148,300 vehicles per day.

Milwaukie Expressway (Highway 224) is a four-mile roadway from Milwaukie to I-205. Highway 224 starts at US 99E in Milwaukie and travels east about 4 miles until it intersects with I-205 south of the Clackamas Regional Center. This 4 lane expressway established an important connection between I-205 and McLoughlin Boulevard (US 99E) during the mid 1970's. The expressway continues to be a major east-west traffic connection providing access for major employment areas in northwestern Clackamas County.

Highway 224 is coincident with I-205 until the Clackamas interchange. Then it continues east along Highway 212 through the Clackamas Industrial Area until it reaches the Rock Creek Junction, where it turns south to Caver and then travels through rural Clackamas County to Estacada. Highway 224 is the main route from this rural portion of Clackamas County to the urban portions of northwestern Clackamas County.

Major Land Use Policy Decisions

Beginning in 1973, Oregon established a statewide planning system that was intended to direct growth towards the urban areas as defined by urban growth boundaries. The establishment of the Portland regional Urban Growth Boundary (UGB) beginning in 1977 committed most of the land in the land use study area to future urban development. The subsequent adoption of the Clackamas County Comprehensive Plan in 1981 committed the area around I-205, the Milwaukie Expressway, and Highway 212/224 to future development as a regional retail and office center, an employment / manufacturing center and one of the largest truck distribution centers in the region. These decisions created the policy framework that guided the expansions of urban uses in the vicinity of the Sunrise Project which has, in turn, produced the demand for more transportation facilities in the area.

The second major policy decision that affects the Sunrise Project was a major expansion of the UGB in 2002. The location of the regional UBG did not significantly change for nearly twenty years after it was first established. Two small expansions located northeast of the Sunrise Project were approved in the late 1990's, followed in 2002 with a major expansion of the UGB that added 12,000 acres of land to the north and east of the Sunrise Project. This Recent UGB Expansion Area, now for the most part included in the new city of Damascus and the easternmost part of the city of Happy Valley, is expected to eventually contain an estimated 45,000 new jobs and 25,000 new households.

State, Regional and Local Government Plans

The need to improve regional and state transportation access and freight connectivity from I-205 to U.S. 26 has been identified in many county, regional and state plans. Proposed projects to improve connectivity between I-205 to U.S. 26 have been known generally as the Sunrise Corridor. The current project is known as the Sunrise Project and it has existed in the planning phase for more than 20 years. The Sunrise Project is included in planning documents at the State, Regional, and County levels. Nevertheless, the Sunrise Project must continue to comply with relevant policies at all levels of government. The following policies and documents broadly support the Sunrise Project.

Statewide Land-Use Planning Program

Oregon has developed a statewide program for land-use planning, the foundation of which is a set of 19 statewide planning goals that outline the state's policies on land use and related topics. Local comprehensive plans implements the 19 statewide goals. Each city and county adopts a Comprehensive Plan and the ordinances necessary to implement the plan, which in turn must be consistent with the goals.

The state land use process also regulates urbanization. An Urban Growth Boundary (UGB) is established around each urban area in the state. Land inside a UBG is available for urban development and supported by public services and utilities. Whereas during the previous Sunrise Project DEIS, much of the land in the study area was outside the UGB, in December 2002 a UGB expansion brought most of the previously rural lands in the land use study area into the UGB. This inclusion provides greater opportunity for development of a transportation facility such as the Sunrise Project.

Passage of Measure 37 in 2004 challenged the statewide planning system by allowing claims for compensation on properties affected by previous land use decisions. The long term impacts of Measure 37 on Oregon land use system are, at the moment, still unclear.

Compliance with Statewide Planning Goals

Generally, compliance with the goals is achieved by demonstrating compliance with an acknowledged comprehensive plan. Since Clackamas County Comprehensive Plan and the County's TSP have been acknowledged as complying with the Statewide Planning Goals and related rules, compliance with the County Comprehensive Plan is considered to be compliance with the Statewide Planning Goals.

Specific alignment decisions included in a local Transportation System Plan (TSP) may also include findings of consistency with applicable statewide planning goals if a major road project is located outside a UGB. The Sunrise Project, a planned highway contained in the plans, is presumed to comply with the related goal requirements.

Oregon Transportation Plan

The Oregon Transportation Plan (OTP), adopted in 1992 and updated in 1999 and 2006, is the state's 20-year multimodal plan for the statewide transportation system. The plan includes policies for bicycle and pedestrian facilities, public transportation, highways, waterways, airports, and railroads. It considers private and public facilities and the local, regional, and state elements of the system. The OTP is the guiding document for the state modal plans and local transportation system plans.

Oregon Highway Plan

ODOT's 1999 Oregon Highway Plan (OHP) defines policies and investment strategies for Oregon's state highway system for the next 20 years, is a component of and further refines the goals and policies of the Oregon Transportation Plan.

The OHP establishes long-range policies and investment strategies for the state highway system that emphasize the following:

1. the efficient management of the highway system to increase safety and extend highway capacity;
2. the development of partnerships with other agencies and local governments; and
3. the use of new techniques to improve road safety and capacity.

In turn, the policies

1. link land use and transportation;
2. set standards for highway performance and access management; and
3. emphasize the connections among state highways and local roads; bicycle and pedestrian routes; and transit, rail, and air transportation systems.

The Sunrise Corridor was originally intended to meet the goals of the Access Oregon Highway program by connecting economic centers in the state (in this case, Southeast Portland-Clackamas County, Mount Hood, and Central Oregon) and improving travel time, capacity, and safety conditions. ODOT has previously designated the Sunrise Project as a Corridor of Statewide Importance.

More recently, policy direction contained in the 1999 Oregon Highway Plan outline guidelines that will need to be addressed in the evaluation of the Sunrise Project alternatives. Goal 1 of the Oregon Highway Plan is to maintain and improve the safe and efficient movement of people and goods, and contribute to the health of Oregon's local, regional, and statewide economies and livability of its communities. Two components of OHP Goal 1, Land Use and Transportation (Policy 1B) and Major Improvements (Policy 1G), apply to the Sunrise Project process.

Policy 1B -- Land Use and Transportation:

The overall goal and focus of the Land Use and Transportation Policy are to connect land use and transportation in a way that achieves long-term objectives for the state highway and the local community. The policy:

- Emphasizes development patterns that maintain state highways for regional and intercity mobility outside communities;
- Enables highways through certain communities to be built to different standards that emphasize easy pedestrian and automobile movements; and
- Requires the classification of high speed, high volume highways as Expressways.

Policy 1G: Major Improvements Policy

The Major Improvements Policy calls for improving system efficiency and management before adding capacity through new lanes, new highways or bypasses. It recognizes that road construction is very expensive and funding is very limited and directs ODOT and local jurisdictions to exhaust all measures in their efforts to protect and improve the efficiency of the existing highway system before adding new highway facilities.

There are two completed analyses document which show that Policy 1G.1 has been met. Each is briefly described as follows:

- Technical Memo 2, Sunrise Project SDEIS, I-205 to Rock Creek Junction, Alternatives and Options Not Recommended for Further Study in the SDEIS. This memo was prepared for

CETAS, discusses the issue of adding capacity to existing OR 212/224 and recommends that this option should not be forwarded to the SDEIS.

- Two separate categories of alternatives were documented in the Technical Memo 2 as follows:
  Alternatives Proposed in 1993 DEIS/1998 FEIS (not adopted) That Did Not Meet the Purpose and Need of the Project or the Goals and Objectives:
  Overall Alignment Alternative: Widen/Upgrade Existing Highway 212/224
  Alignment across Mt. Talbert
  More Westerly Crossing of Camp Withycombe
  Enhanced Transit, Transportation Demand Management (TDM), Transportation System Management (TSM)
  Options Proposed at the 2004 Public Design Workshops Not Recommended for Further Study in the SDEIS
  1996 Design (Modified) (I-205 Interchange Area)
  Maintain Lawnfield Road Area Access (Lawnfield Area)
  Half Interchange (Mid-Point Area)
  Move Existing OR 212/224 to the North (135th Avenue to Rock Creek Area)
  Southern Alignment (135th Avenue to Rock Creek Area)
  On Top of the Bluff (135th Avenue to Rock Creek Area)
- **Sunrise Corridor Project, Evaluation of Transit/TDM Alternative, December 21, 2005.** A special model run conducted by Metro in 1995 demonstrated that enhanced TDM/TSM/Transit improvements would not, by themselves, address congestion issues in the Sunrise Corridor.

These findings document that adding capacity to existing facilities is insufficient to address congestion, and managing existing facilities with TDM/TSM/transit measures is also insufficient. Therefore, the need to add capacity with a new facility is reasonable because implementing other measures of higher priority would not achieve the goals for a safe and efficient transportation system.

The Sunrise Project was underway and need established before the 1999 OHP was adopted. The following documents provide the history of the previous work on the Sunrise Project:

- 1988: The Sunrise Project was added to the State Transportation Improvement Program as an Access Oregon Highway project.
- 1993: ODOT released the Draft Environmental Impact Statement and held public hearing for Sunrise Corridor Unit 1, I-205 to 172nd Avenue.
- 1996: The Clackamas County Board of Commissioners approved the preferred alternative, which consists of the central alignment within the Lawnfield/Mather Road area and the southern alignment around Damascus.
- 1998: ODOT completed Final Environmental Impact Statement on Sunrise Unit 1, but decided to halt work on the project, lacking funds for construction.

Additionally, the project is included in the following County, Metro, and State transportation planning documents:

- Clackamas County's Transportation Plan
- Metro's RTP Financially Constrained Projects
- The 1999 OHP (p. 214) as a designated Freight Route on the NHS. It is reasonable to assume that a Sunrise Corridor facility would be designated OR 212/224 and become the

Freight Route, and that the existing OR 212/224 would be transferred to Clackamas County's jurisdiction.

Metro Functional Plan and 2004 Regional Transportation Plan

Metro is the regional government responsible for regional land use and transportation planning under state law and the federally designated metropolitan planning organization (MPO) for the Portland metropolitan area. Metro also administers the UGB for the Portland metropolitan area.

Regional Framework Plan

Metro's 1997 Regional Framework Plan is a comprehensive set of policies that integrate land-use, transportation, water, parks and open spaces and other important regional elements to accommodate future population and employment growth and achieve the 2040 Growth Concept. From a transportation standpoint, the 2040 Growth Concept provided the best overall performance at the lowest cost of all the alternative concepts that were evaluated. The Regional Transportation Plan is consistent with the Framework Plan and 2040 Growth Concept.

Regional Transportation Plan

The Regional Transportation Plan is a 20-year blueprint for the Portland metropolitan region's transportation system. The RTP defines regional policies that all cities, county, TriMet, Oregon Department of Transportation and Port of Portland transportation plans must follow. The plan addresses the impacts of future growth on our transportation system and identifies transportation projects and programs throughout the region for the next 20 years to implement the region's 2040 Growth Concept.

The Regional Transportation Plan was developed to include separate layers of planned projects and programs that respond to differing federal, state and regional planning mandates. These layers are:

- The preferred system, which responds to regional planning policies, adopted as part of the 2040 Growth Concept and Regional Framework Plan.
- The financially constrained system, which responds to federal planning requirements and is based on a financial forecast of limited funding over the 20-year plan period.
- The priority system, which responds to state planning requirements and assumes that substantial new revenue must be identified in order to provide an adequate transportation system over the 20-year plan period

The Sunrise Corridor is shown on Metro's RTP: Regional Motor Vehicle System (Figure 1.13) and: Regional Street Design System (Figure 1.4) as a Highway and on Regional Freight System as a Main Roadway Route (Figure 1.18).

The following is a list of the RTP (2004) references to the elements for the Sunrise Project delineated in Appendix of the RTP.

5003	Sunrise Highway – Unit 1, Phase 2, 122nd Avenue to Rock Creek - 2004-09
5004	Sunrise Highway R-O-W Preservation, Rock Creek to 257th - 2004-09
5021	Highway 224 Extension Construct new four-lane highway and reconstruct Highway 212/122nd Avenue interchange - 2010 – 15
5024	Sunrise Project Supplemental EIS, I-205 to Rock Creek - 2004 – 09
5034	Sunrise Highway R-O-W Preservation, I-205 to Rock Creek - 2004 – 09
5212	Sunrise Highway Unit 1, Phase 2 PE 135th Avenue to 172nd Avenue - 2004-09
5213	Sunrise Highway Unit 1, Phase 2 R-O-W Preservation - 2004-09

County Comprehensive Plan, TSP and Zoning Ordinance

Clackamas County's Comprehensive Plan and its accompanying Zoning Development Ordinance (ZDO) has been acknowledged by LCDC. The ZDO designates new roads as an allowed use all zoning designations except for the areas currently designated Agricultural. There are three parcels outside the UGB in the land use study area that are planned and zoned as EFU land. These parcels are located south of the Clackamas River and are not impacted by any of the Sunrise Project alternatives.

Eight parcels (approximately 146 acres total) on the north side of the river in the east part of the study area are currently zoned EFU as an interim zoning designation. The December 2002 expansion of the metropolitan area UGB brought them into the urban area. These parcels have mostly been annexed into the City of Happy Valley.

The County's Comprehensive Plan identifies the Sunrise Project as a component of the Clackamas County 20 Year Capital Improvement Needs (Table V-1). The functional class of the facility is designated as on Expressway / Freeway on Map V-2a (Urban Functional Class Map). The Regional Street Design Type Map (Map V-3) designates the Sunrise Project as a Highway. A Highway is defined as usually containing 4-6 travel lanes which are generally divided with an impassable median with left-turn refuges may be provided at signalized intersections. Bike lanes should be provided, sidewalks should be provided within the urban area.

Existing Clackamas County Zoning

The Sunrise Project is proposed in an area that is planned and zoned by Clackamas County. In Zone D, the cities of Happy Valley and Damascus have recently annexed areas and have not yet completed their own Comprehensive Plan and Zoning designations. Clackamas County's designations apply until the cities complete their work.

The county has zoned the land use study area to be about one-third industrial and office designations (1,558 acres or 37%) and about 7% retail (305 acres). Residential designations make up most of the remainder. There is some rural, agricultural and future urban zoning in the eastern parts of the study area, and several sites zoned for open space are scattered throughout the study area. Table A-5 in the appendix summarizes zoning in the study area by Analysis Zone. Figure 16 illustrates the County's current zoning designations in the land use study area. Existing land uses and zoning by analysis zone were described in above by analysis zone.

Damascus/Boring Concept Plan

A concept plan was completed in December 2005 for the area that was brought into the Urban Growth Boundary by Metro's December 2002 decision. The Damascus/Boring Concept Plan was a cooperative planning effort to create a Concept Plan and Implementation Strategies for development of approximately 12,000 acres located south of Gresham and east of Happy Valley in Clackamas County. Clackamas County and Metro jointly developed the concept plan, with the participation of Damascus, Happy Valley, ODOT, area citizens, key organizations, service providers and other nearby cities. The concept plan would provide the basis for future comprehensive plan amendments and development code regulations that must be adopted before development can take place.

The Damascus/Boring Concept plan was closely coordinated with the environmental analysis of the Sunrise Projects effort and addressed the general need, modes, function, and location of the proposed Sunrise Parkway. The Damascus/Boring Concept Plan reaffirms that Sunrise Parkway improvements are needed, and identified transportation alternatives to be evaluated through a future DEIS process similar to that already initiated for the Sunrise Project.

Rock Creek Employment Study

In 2004 an employment study was conducted for the area between Rock Creek (including its buffer) on the west; Highway 212 on the south; 172nd Ave. on the east; extends beyond Zone D on the north, which had been designated Regionally Significant Industrial Land through a Metro process. The study calculated the employment yields and transportation impacts of two different employment land use scenarios. This study was reviewed and incorporated into the Damascus Boring Concept Plan process.

Happy Valley Planning Requirements

The land use on lands that are within Happy Valley are governed by the County Comprehensive Plan and Zoning designations until Happy Valley adopts its own comprehensive plan map and zoning designations. Happy Valley is in the process of adopting Comprehensive Plan, TSP, and Code revisions, converting to Happy Valley urban designations. The work plan for this process schedules adoption of plan map, plan text and TSP update in late 2007.

Damascus Planning Requirements

The land uses on lands that are within Damascus are governed by County Comprehensive Plan and Zoning designations until Damascus adopts its own comprehensive plan map and zoning designations. Damascus provisionally adopted the Clackamas County ZDO and Comprehensive Plan on January 17, 2005. Damascus is in the process of a Comprehensive Plan, TSP, and Code revision, converting to Damascus urban designations. That process is expected to be completed by 2008.

ENVIRONMENTAL CONSEQUENCES

The Land Use Technical Report and its analysis of the environmental consequences of the Sunrise Project are closely tied to the analyses contained in the Socioeconomic Technical Report, the Traffic and Transportation Technical Report, and the Right of Way Technical Report. More detailed information about some impacts may be found in one or more of these other reports.

Key Assumption

Because of Oregon's unique land use laws and the presence of the UGB, there is one key assumption that underlies the land use analysis of the Sunrise Project that is different from assumptions made for land use analysis of projects in most other states. That is that the population and employment growth forecast for the study area will occur regardless of the outcome of the decision about whether or not to build the Sunrise Project. Land development in Oregon is not primarily driven by the development of a highway system to the same extents that it is in other states that do not have statewide planning systems. The availability of sewer service, water service, and land zoned for urban development within the UGB will drive development over the next 20 to 30 year time period.

The Oregon land use planning system directs urban growth and densities towards those areas that are within UGB's and away from lands that are outside the a UGB. It also defines the priority areas to be brought into UGBs in the future. Barring a radical change in this land use planning system, future urban growth in the Portland region will continue to occur inside the UGB and in the Future Expansion Area for the UGB (the area that meets criteria for future expansion of the UGB located to the east and probably to the south of the Sunrise Project). Lands outside the Future Expansion Area for the UGB are not expected to be available for large scale urban development.

It is understood that future urban growth may slow down as traffic and congestion problems increase and as other portions of the region that have developable lands within the UGB compete for the region's growth. However it is unlikely that development of the area around the Sunrise Project and the area to the east of the project, within the UGB, will actually be stopped by traffic and congestion problems.

Analysis Approach

The three alternatives and design options are analyzed by geographic zone, as presented in the preceding Affected Environment Section. Where impacts are common for Alternative 2 and 3, they are combined into a Build Alternatives section. In addition, the design options are discussed discretely within the geographic zones for the Build Alternatives, and the design option impacts are compared to the impacts expected under the Build Alternatives. For each alternative, and for design options with impacts that are distinct from the build alternatives, the analysis addresses the following types of impacts:

- Direct Impacts: ROW acquisition and property access
- Temporary Impacts, if any
- Policy and Plan Impacts

- Indirect Effects
- Cumulative Effects
- Mitigation Measures
- Enhancement Opportunities

Under each of the above headings information is organized by Analysis Zones A, B, C, and D.

Direct impacts consist of acquiring right-of-way that would reduce the amount of developable or developed land, or displace buildings, or change access to specific properties. Total direct impacts are also reported by specific land use categories (vacant, residential, employment, and other), unique land uses, county zoning, planned development, and access impacts. Detailed direct impact data is contained in the tables located in Appendices B thru J.

Policy and plan compatibility addresses the extent to which the no-build and build alternatives meet the policies of applicable land use and transportation plans. Indirect effects are caused by the proposed action but occurring later in time or farther removed in distance than direct effects, and are still reasonably foreseeable. Indirect effects are related to spill-over effects on other elements of the environment, and in particular, induced changes in the pattern of land use, population density or growth rate. Cumulative effects on the environment are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

The impacts on policy and plan compatibility and for indirect and cumulative effects are discussed only with respect to the No Build and Build Alternatives, as there is little to no difference between the Alternatives, 2 and 3, or between the design options and the Build Alternatives.

Direct Impacts

Alternative 1: No-Build

No direct impacts from Alternative 1 would occur in Zones A, B, or C. (Impacts from projects already planned for improvement are not required to be analyzed in the SDEIS; see discussion under Alternatives Description.)

Alternative 1 would not create any major changes to the existing access of any of the businesses, employment areas or residential areas in Zones A, B, or C. Alternative 1 would not directly impact planned projects in Zones A, B, C and D beyond the impacts described in this section.

In Zone D under the No-Build Alternative, an eastbound climbing lane on Highway 212 between Rock Creek Junction and SE 172nd Avenue would be needed to facilitate the movement of heavy trucks up a short steep grade just to the east of the Rock Creek Junction. Highway 212 in this segment is located on the slope of a hill in a relatively narrow road corridor with little room for a widening project. It is expected that this project would require right-of-way expansion to the north large enough to include a cut into the existing embankment on the north side of the road. This road expansion project could require the removal of one or two houses between Rock Creek Junction and 162nd Avenue. It is also possible that the construction of this project may

impact the Orchard Summit Natural Area Park located just to the south of the existing Highway 212 facility.

Alternative 2- Build with Midpoint Interchange

Table 3 summarizes by zone the direct impacts of acquiring ROW in Alternative 2: number of lots impacted, land that must be acquired, buildings and residential units to be removed, and individual accesses affected.

The Right-of-Way Technical Report contains additional details on the right-of-way impacts and costs of acquisition of Alternatives 2 and 3 and the Design Options. Likewise, the Socio-Economic Technical Report discusses the impacts on neighborhood circulation, access to community facilities, the local economy, and Environmental Justice of Alternatives 2 and 3 and the Design Options.

Table 3 Summary of Alternative 2 Impacts

			Alternative 2		
Effects Of Alternatives & Design Options	**Zone A**	**Zone B**	**Zone C**	**Zone D**	**Total**
Total Number Of Lots In Analysis Zones	1121	931	464	853	3369
Total Number Of Lots Impacted By ROW	**150**	**73**	**25**	**48**	**296**
Total Number Of Acres In Analysis Zone	1588.4	837.2	484.9	756.8	3667.3
Total Acres Removed For ROW	**182.1**	**178.0**	**53.4**	**100.1**	**513.6**
Total Number Of Residential Units In Analysis Zone	2281	1429	873	762	5345
Total Number Of Residential Units To Be Removed For ROW	**27**	**5**	**33**	**7**	**72**
Total Number Of Single Family Units In Analysis Zone	523	761	354	762	2400
Number Of Single Family Units To Be Removed For ROW	**3**	**1**	**3**	**7**	**14**
Total Number Of Multifamily Units In Analysis Zone	1542	290	0	0	1832
Number Of Multifamily Family Units To Be Removed For ROW	**24**	**0**	**0**	**0**	**24**
Total Number Of Mobile Home Units In Analysis Zone	216	378	519	0	1113
Number Of Mobile Home Units To Be Removed For ROW	**0**	**4**	**30**	**0**	**34**
Total Number Of Residential Acres In Analysis Zone	253.1	227.6	251.8	389.8	1122.3

Number Of Acres Of Residential Land Removed For ROW	**3.8**	**3.7**	**11.0**	**20.9**	**39.3**
Total Number Of Acres Of Employment Land In Analysis Zone	747.8	363.5	37.3	33.9	1182.5
Number Of Acres Of Employment Land Removed For ROW	**73.1**	**45.7**	**9.3**	**4.4**	**132.5**
Total Number Of Acres Of Other Land In Analysis Zone	314.8	90.4	100.3	45.3	550.7
Number Of Acres Of Other Land Removed For ROW	**25.7**	**0.0**	**0.0**	**0.7**	**26.4**
Number Of Acres Of Existing Public ROW In Analysis Zone	272.7	155.8	95.6	287.8	811.9

The following unique land uses in Zone A would not be affected by Alternative 2:

- Clackamas Cemetery
- KZNY Radio Towers

Alternative 2 - Zone A

The overall ROW impacts of Alternative 2 in Zone A are minimal. Alternative 2 impacts a total of 150 lots, requiring 182.1 acres to be acquired and 46 buildings that include 27 residential units would be displaced.

Temporary Impacts

There is no additional area impacted by construction.

Impacts to Vacant Land

Nearly half (79.6 acres) of the 182.1 acres required for Alternative 2 ROW in Zone A would be vacant land. Of the 87 lots totaling 272.7 acres inventoried as vacant, 24 lots (27.7%) are impacted, and a total of 79.6 acres (29.2%) must be acquired for ROW. No (0) buildings on vacant land are required to be removed.

Residential Land and Residential Units

The overall ROW impacts on residential land and residential units by Alternative 2 in Zone A would be minimal. Nine (9) of 516 single family residential lots (1.7%) would be impacted, and 1.9 of 123.9 acres of single family residential land (1.5%) would be acquired. Six (6) of 72 multi family residential lots (8.3%) and 1.9 of 100.6 acres of multi family residential land (6.7%) would be acquired.

Twenty-seven (27) of 2,281, residential units (1.2%) in Zone A would be removed for new ROW including three (3) of 515 single family residences (0.6%) and 24 of 1,542 multi family residences (1.6%). Widening the I-205 right-of-way causes most of the residential displacements.

There would be no impact to mobile home park land, 216 mobile home park units or 8 residential units in Other land categories in Zone A under Alternative 2.

Impacts to Employment Land

In Zone A, a total of 747.8 acres in 372 lots have been inventoried in employment land categories. The overall ROW impacts on employment land by Alternative 2 in Zone A are minimal. Alternative 2 would impact the following employment land and buildings for ROW:

- Commercial: Of the 141 lots, 44 (31.2%) are impacted, requiring 17.3 of 214.1 acres (8.1%) and 16 buildings.
- Industrial: Of the 117 lots, 23 lots (19.7%) are impacted, requiring 29.0 of 217.0 acres (13.3%) and 6 buildings.
- Office: Of the 40 lots, 12 lots (30.0%) are impacted, requiring 16.5 of 74.0 acres (22.3%) and 9 buildings.
- Office Warehouse: Of the 20 lots, 4 lots (20.0%) are impacted, requiring 4.1 of 57.0 acres (7.2%) and 4 buildings.
- Warehouse: Of the 54 lots, 12 lots (22.2%) are impacted, requiring 6.3 of 185.8 acres (3.4%) and 3 buildings.

Commercial and industrial displacements would occur in the Ambler Road, 82nd Avenue, Lawnfield Road, and Mather Road areas.

Other Land Uses

Nine Other land use categories were inventoried in Zone A: Church, Community Uses, Emergency Services, Military, Open Space, Park, ROW, Schools, and Utilities. The overall ROW impacts on Other land uses by Alternative 2 in Zone A would be minimal. Of the 69 lots identified in other land use categories in Zone A, 16 lots (23.2%) are impacted, and a total 25.7 (8.2%) of the 314.8 acres must be acquired for ROW. One (1) building would be removed. There would be no impact to land identified as Church, Emergency Services, or Park land in Zone A by Alternative 2. Impacts to specific Other land use categories are as follows:

- Community Uses: Of the 5 lots, 2 lots (20.0%) are impacted, requiring 0.4 of 3.1 (11.8%) acres and 1 building.
- Military Uses: Of the 2 lots, 1 lot (50.0%) is impacted, requiring 0.8 of 78.1 (1.0%) acres and 0 buildings.
- Open Space Uses: Of the 8 lots, 6 lots (75.0%) are impacted, requiring 9.9 of 21.7 (45.7%) acres and 0 buildings.
- ROW Uses: Of the 25 lots, 2 lots (8.0%) are impacted, requiring 0.5 of 7.4 (6.6%) acres and 0 buildings.
- School Uses: Of the 7 lots, 1 lot (14.3%) is impacted, requiring 0.2 of 47.9 (0.4%) acres and 0 buildings. The Clackamas Elementary School recreation fields are the impacted school land.
- Utilities Uses: Of the 12 lots, 4 lots (33.3%) are impacted, requiring 14.1 of 71.4 (19.7%) acres and 0 buildings.

Unique Land Uses

In Zone A, the KEX Radio Towers utilities site would be affected by the highway ROW crossing the southwest corner of the site while the new north Lawnfield alignment would affect the southern and the eastern boundaries. The "north" Lawnfield connection would impact the ground mat of copper wires for tower number 3 when it passes within 350 feet west of the tower.

The NW Pipe and Casing Superfund site would be affected by the alignment from the northwest corner to the southeast corner. Reviewers are directed to the Hazardous Materials Technical Report for more information on impacts at this site.

The portion of Camp Withycombe owned by the Oregon Military is only slightly impacted by minor right-of-way acquisition along SE Industrial Way. This impact would result in some reconfiguration of the activities currently located at Camp Withycombe. The portion of Camp Withycombe owned by ODOT was acquired to accommodate the Sunrise Project. The alignment would run the entire east-west length of the ODOT parcel and in the area below the forested bluff. Alternative 2 would require the removal of a number of equipment storage areas currently used by Camp Withycombe and the closure of the firing ranges.

Impacts by County Zoning Designation

Of the thirteen different Clackamas County zoning designations impacted in Zone A, the zones most affected by acquisition would be Business Park, General Industrial, General Commercial, Light Industrial and High Density Residential. Alternative 2 impacts to all Clackamas County Zoning Designations in Zone A are as follows:

- Of the 192.9 acres zoned Business Park (BP), 50.6 acres (26.2 percent) will be acquired.
- Of the 200.2 acres zoned General Commercial (C3), 25.1 acres (12.5%) will be acquired
- Of the 55.4 acres zoned High Density Residential (HDR), 5.0 acres (9.0%) will be acquired.
- Of the 480.3 acres zoned Light Industrial (I2), 57.1 acres (11.9%) will be acquired
- Of the 231.7 acres zoned General Industrial (I3), 35.9 acres (15.5%) will be acquired.
- Of the 37.5 acres zoned Medium Density Residential (MR1), 0.2 acres (0.4%) will be acquired.
- Of the 62.2 acres zoned Office Commercial (OC), 3.5 acres (5.7%) will be acquired.
- Of the 105.0 acres zoned Open Space Management (OSM), 3.7 acres (3.5%) will be acquired.
- Of the 3.3 acres zoned Planned Medium Density Residential (PMD), negligible acres (0.5%) will be acquired.
- Of the 182.1 acres zoned Urban Low Density Residential (R-10), 0.1 acres (0.0%) will be acquired.
- Of the 85.7 acres zoned Urban Low Density Residential (R-20), negligible acres (0.0%) will be acquired.
- Of the 66.5 acres zoned Regional Center Commercial (RCC), 0.2 acres (0.3%) will be acquired.
- Of the 56.5 acres zoned Regional Center Office (RCO), 0.8 acres (1.3%) will be acquired.

Impacts to Planned Development

Alternative 2 is expected to impact the future Oregon Iron Works railroad spur, necessitating its relocation. Alternative 2 would not impact the expansions of the Clackamas Town Center or the planned creation of a Nurse Training Program at the Clackamas Community College site at 82nd Avenue and Harmony Road. Nor is it expected to have a negative impact on the I-205 Light Rail transit project.

Neighborhood and Business Access Impacts

Alternative 2 creates a number of changes in access for neighborhoods and businesses. Changes to neighborhood circulation are discussed in the Socio-Economic Technical Report in terms of the potential impacts to community cohesion. There are number of smaller localized changes in access which result in new travel routes that are less than one-half mile longer than the original travel routes that connected neighborhoods and businesses to the main street system. A total of 132 local property accesses would be affected for all of Alternative 2, of which 17 would be residential and 102 employment.

Alternative 2 - Zone B

The overall ROW impacts of Alternative 2 in Zone B are minimal. Alternative 2 impacts 73 of 931 lots (7.8%), requiring 178.0 of 837.2 acres (21.3%) to be acquired, and 16 buildings that include 4 Residential Units(one single-family and three mobile home units) to be displaced.

Impacts to Vacant Land

A major portion (128.8 acres) of the 178.0 acres required for ROW would be of vacant land. Of the 21 lots totaling 155.7 acres inventoried as vacant, 11 lots (52.4 percent) are impacted, and a total of 128.8 vacant acres (82.7 percent) must be acquired for ROW. No (0) buildings on vacant land are required to be removed.

Residential Land and Residential Units

The overall ROW impacts on residential land and residential units by Alternative 2 in Zone B would be minimal. Only 3.6 of 227.6 acres of total residential land (1.6 percent) would be required for ROW.

Seven (7) of 760 single family residential lots (0.9 percent) would be impacted, and 2.4 of 160.5 acres of single family residential land (1.5%) would be acquired. One (1) of 3 multi family residential lots (33.3 percent) would be impacted and 0.9 of 19.0 acres of multi family residential land (4.5 percent) would be acquired. Two (2) of 8 mobile home park lots (25.0 percent) would be impacted and 0.3 of 48.1 mobile home park acres (0.7 percent) would be acquired.

Four (4) of 1429 total residential units (0.3 percent) would be removed for new ROW including one (1) of 760 single family residences (0.1 percent) and three (3) of 378 mobile home park units (0.8%). The displacements would occur near the intersection of Hubbard Road and Highway 212/224. None of the 290 multi-family residences would be removed for Alternative 2 in Zone B.

Impacts to Employment Land

The overall ROW impacts on employment land by Alternative 2 in Zone B are minimal. A total of 363.5 acres in 99 lots have been inventoried in employment land categories; 45.7 of those employment land acres and 12 building displacements would be required for ROW. Alternative 2 would impact the following employment land categories and buildings for ROW:

- Commercial: Of the 21 lots, 14 (66.7 percent) are impacted, requiring 2.4 of 27.6 acres (8.7 %) and 4 buildings.
- Industrial: Of the 37 lots, 23 lots (62.2 percent) are impacted, requiring 27.4 of 65.7 acres (41.7 percent) and 6 buildings.
- Office Warehouse: Of the 8 lots, 1 lot (12.5 percent) is impacted, requiring 0.1 of 11.0 acres (0.9 percent) and 0 buildings.
- Warehouse: Of the 33 lots, 14 lots (42.4 percent) are impacted, requiring 15.8 of 259.2 acres (6.1 percent) and 2 buildings.

Most of the commercial and industrial displacements in Zone B would occur near the intersection of 122nd Avenue with Highway 212/224 and north of the highway between 122nd Avenue and Hubbard Road.

Impacts to Other Land Uses

Five Other land use categories totaling 40 acres were inventoried in Zone B: Emergency Services, Open Space, Park, ROW, and Schools. There would be no impacts to these Other land use categories.

Impacts to Unique Land Uses

The identified wildlife corridor, which runs along the Clackamas Bluff, is impacted by the ROW of the Sunrise Project. Although the Sunrise Project is set below the bluff, the project would be constructed atop approximately 30 feet of fill, which would cover approximately the lower third of the bluff in the area of the wildlife corridor. (See Biology Technical Report for details.)

The portion of Camp Withycombe owned by ODOT was acquired to accommodate the Sunrise Project. The alignment would run the entire east-west length of the ODOT parcel and in the area below the forested bluff. Alternative 2 would require the removal of a number of equipment storage areas currently used by Camp Withycombe and the closure of the firing range.

Impacts by County Zoning Designation

Of the five (5) different Clackamas County zoning designations impacted in Zone B, the zones most affected by acquisition would be the Urban Low Density (R-20), General Industrial (I3) and Light Industrial (I2). Alternative 2 impacts to all Clackamas County Zoning Designations in Zone A are as follows:

- Of the 418.9 acres zoned Light Industrial (I2), 45.4 acres (10.8 percent) will be acquired.
- Of the 30.3 acres zoned General Industrial (I3), 26.9 acres (88.8 percent) will be acquired.
- Of the 19.5 acres zoned Medium High Density Residential (MR2), 0.8 acres (4.3 percent) will be acquired.
- Of the 210.7 acres zoned Urban Low Density Residential (R-8.5), 14.0 acres (6.6 percent) will be acquired.

- Of the 90.7 acres zoned Urban Low Density Residential (R-20), 90.7 acres (100.0%) will be acquired.

Neighborhood and Business Access Impacts

Access to the Sunrise Project would be provided at the Mid-Point Interchange via a new arterial road that connects to a new intersection at Highway 212/224 and 122nd Avenue. The construction of this interchange and the connecting arterial road would impact the local business community but these access changes are generally fairly minor. A total of 132 local property accesses would be affected for all of Alternative 2, of which 17 would be residential and 102 employment.

The majority of the access impacts on businesses are located to the north of Highway 212/224, are relatively minor and consist of right in- right out-only access onto Highway 212/224. There are four parcels located east of the new arterial connection along Highway 212/224 that would loose their direct access to Highway 212/224. These lots would take their new access from 125th Court and from a new cul-de-sac that connects to 125th Court. Along 122nd Avenue, south of Highway 212/224, any remaining access points are assumed to be right in- right out-only.

Alternative 2 – Zone C

The overall ROW impacts of Alternative 2 in Zone C are minimal. Alternative 2 impacts 25 of 464 lots (5.4 percent), requiring 53.4 of 484.9 acres (11.0 percent) to be acquired and 45 buildings that include 33 Residential are displaced.

Impacts to Vacant Land

Over half (33.1 acres) of the land required for ROW (53.4 acres) would be vacant. Of the 32 lots totaling 95.6 acres inventoried as vacant, 6 lots (18.8 percent) are impacted, and a total of 33.1 vacant acres (34.6 percent) must be acquired for ROW. No (0) buildings on vacant land are required to be removed.

Impacts to Residential Land and Residential Units

The overall ROW impacts on residential land and residential units by Alternative 2 in Zone C would be minimal. Only 11.0 of 251.8 acres of total residential land (4.4 percent) would be required for ROW.

Four (4) of 354 single family residential lots (1.1 percent) would be impacted, and 6.4 of 154.3 acres of single family residential land (4.2 percent) would be acquired. Three (3) of 353 single family residential units (0.8 percent) would be removed. One (1) of 16 mobile home park lots (6.3 percent) would be impacted and 4.6 of 97.5 acres of mobile home park land (4.7 percent) would be acquired. Thirty (30) of 519 mobile home park units (5.8 percent) will be removed. All of the potential displacements would occur near the intersections of the main north-south roads—Hubbard Road, 142nd Avenue and 152nd Avenue. No multi family land or residential units would be affected.

Impacts to Employment Land and Buildings

The overall ROW impacts on employment land by Alternative 2 in Zone C are moderate. A total of 37.3 acres in 32 lots have been inventoried in employment land categories; 9.3 of those employment land acres (25.0 percent) and 11 building displacements would be required for ROW. Alternative 2 would impact the following employment land categories and buildings for ROW:

- Commercial: Of the 10 lots, 5 (50.0 percent) are impacted, requiring 2.7 of 8.2 acres (33.3 percent) and 5 buildings.
- Industrial: Of the 16 lots, 7 lots (44.6 percent) are impacted, requiring 6.6 of 22.0 acres (30.1 percent) and 6 buildings.
- Warehouse: Of the 6 lots, 1 lot (16.7 percent) is impacted, requiring only a negligible land area and no (0) buildings.

Impacts to Other Land Uses

Five Other land use categories totaling 100.25 acres were inventoried in Zone C: Agricultural Land, Open Space, ROW, Schools and Utilities. The overall ROW impacts to these Other land uses in are almost nil. One (1) lot inventoried as Open Space would be affected, but not by a measurable amount.

Impacts to Unique Land Uses

With respect to impacts on unique uses, the project would have similar effects on the Wildlife Corridor as described under Zone B.

Impacts by Zoning Categories

Of the four (4) different Clackamas County zoning designations impacted in Zone C, the zones most affected by acquisition would be the Urban Low Density (R-20) and Light Industrial (I2). Alternative 2 impacts to all Clackamas County Zoning Designations in Zone A are as follows:

- Of the 86.0 acres zoned Light Industrial (I2), 37.3 acres (43.3 percent) will be acquired.
- Of the 134.2 acres zoned Medium Density Residential (MR1), 4.6 acres (3.4 percent) will be acquired.
- Of the 67.0 acres zoned Urban Low Density Residential (R-8.5), 1.4 acres (2.1 percent) will be acquired.
- Of the 11.8 acres zoned Urban Low Density Residential (R-20), 10.2 acres (86.7%) will be acquired.

Impacts to Planned Development

Alternative 2 is expected to have a negative impact on the Industrial to Commercial zone change currently in process for the 29.4 acres at 15251 SE 142nd Avenue because approximately one third of this site would be needed for right-of-way under this build alternative.

Alternative 2 would not preclude the future completion of the proposed Metro trail system or the future completion of the proposed NCPRD trail system. Four of the proposed Metro trails cross the Alternative 2 in the vicinity of 82nd Avenue, 142nd Avenue and near Rock Creek. Although the final alignments of these trails are not known at this time the location of Sunrise Project bridges at or near these locations would allow the proposed trails to cross under the Project and

continue to their proposed destinations. The Clackamas Bluff Trail is depicted as paralleling the Sunrise Project as it travels below the Wildlife Corridor. It is possible that the Bluff Trail may be located on this route in the future or another alignment may be selected to avoid impacting this natural resource. It should be noted that this trail as proposed crosses a portion of an existing military reservation, Camp Withycombe. It is unclear whether or not such a crossing is possible under military security regulations.

The NCPRD trails are similar to those contained in the Metro trails system, two of which would be in the vicinity of 142nd Avenue and near Rock Creek. As above, the Sunrise Project bridges would allow the proposed trails to cross under the alignment. The NCPRD trail system similar to the Metro Clackamas Bluff Trail may be located on this route in the future or it may be rerouted to avoid impacting this natural resource.

Residential and Business Access Impacts

The business and residential parcels located north of Highway 212/224 between 135th Avenue and 142nd Avenue have major changes in their access. The business and one residential unit that currently take access directly from Highway 212/224 would have their accesses rerouted to 142nd Avenue via a new cul-de-sac frontage road located north of and parallel to the Sunrise Project. Likewise one residential unit that currently has access directly on to 142nd Avenue would have access changed to the cul-de-sac frontage road located north of the Sunrise Project and connecting to 142nd Avenue.

Access to the regional road system will continue to be either by way of Highway 212/224 to I-205 or by way of either the Rock Creek Interchange or the Mid-point Interchange, if it is built, to the Sunrise Project. Access to the Sunrise Project via the Rock Creek Interchange requires a small amount of out-of-direction travel by vehicles originating at either 152nd Avenue, 142nd Avenue, or 135th Avenue. The revised arterial road connection from existing Highway 212/224 to Highway 224 south of the Rock Creek Interchange requires traffic to go out of direction to the south and then double back to the north to make the connection to the new Rock Creek Interchange.

A total of 132 local property accesses would be affected for all of Alternative 2, of which 17 would be residential and 102 employment.

<u>Alternative 2 - Zone D</u>

The overall ROW impacts of Alternative 2 in Zone D are minimal. Alternative 2 impacts 48 of 853 lots (5.6 percent), requiring 100.1 of 756.8 acres (13.2 percent) to be acquired and 8 buildings that include 7 residential units to be displaced.

Vacant Land

A major portion (74.2 acres) of the total ROW acquisition in Zone D (100.1 acres) would be of vacant land. Of the 58 lots totaling 287.8 acres inventoried as vacant, 18 lots (31.0 percent) are impacted, and a total of 74.2 vacant acres (25.8 percent) must be acquired for ROW. Two (2) buildings on vacant land are required to be removed.

Impacts to Residential Land and Residential Units

The overall ROW impacts on residential land and residential units by Alternative 2 in Zone D would be minimal. Twenty-three (23) of 756 single family residential lots (3.0 percent) would be impacted, and 20.9 of 389.8 acres of single-family residential land (5.4 percent) would be required for ROW. Five (5) of 752 single family residential units (0.7 percent) and 2 of 10 residences in other land use categories would be removed.

Residences would be displaced due to widening the ROW along Highway 224 and along the new alignment next to Highway 212.

Impacts to Employment Land and Buildings

The overall ROW impacts on employment land by Alternative 2 in Zone D are minimal. A total of 33.9 acres in 4 lots have been inventoried in employment land categories; 4.4 of those employment land acres (12.9 percent) and 1 building displacement would be required for ROW. Alternative 2 would impact the following employment land categories and buildings for ROW:

- Commercial: Of 2 lots, both (100.0 percent) are impacted, requiring 2.0 of 10.6 acres (19.2 percent) and no (0) buildings.
- Industrial: Of 2 lots, both (100.0 percent) are impacted, requiring 2.3 of 23.3 acres (10.0 percent) and one (1) building.

Impacts to Other Land Uses

Five Other land use categories totaling 45.3 acres were inventoried in Zone C: Church, Open Space, Park, ROW and Utilities. The overall impacts on Other land use categories inventoried in Zone D would be minimal. There would be no impact to land identified as Church, Open Space or Park land. Impacts to specific Other land use categories are as follows:

- ROW Uses: Of the 12 lots, 1 (8.3%) is impacted, requiring 0.2 of 2.2 acres (9.3 percent) and 0 buildings.
- Utilities Uses: Of the 2 lots, both (100 percent) are impacted, requiring 0.5 of 1.7 acres (27.2 percent) and 0 buildings.

Impacts to Unique Land Uses

The transition from the end of Sunrise Project to existing Highway 212, as currently proposed under Alternative 2 would impact the southern approximately 75 feet of the Williams Pipeline Gas Distribution Facility site. (See Utility Report for details.)

Impacts by County Zoning Designation

Of the seven (7) different Clackamas County zoning designations impacted in Zone D, the zones most affected by acquisition would be the Exclusive Farm Use (EFU) and Future Urban (FU10) and Rural Residential (RRFF5). Alternative 2 impacts to all Clackamas County Zoning Designations in Zone D are as follows:

- Of the 185.0 acres zoned Exclusive Farm Use (EFU), 62.9 acres (34.0 percent) will be acquired.
- Of the 74.9 acres zoned Future Urban (FU10), 12.8 acres (17.0 percent) will be acquired.
- Of the 15.2 acres zoned Medium Density Residential (MR1), 2.0 acres (13.2 percent) will be acquired.

- Of the 64.9 acres zoned Urban Low Density Residential (R-7), 0.1 acres (0.1 percent) will be acquired.
- Of the 102.5 acres zoned Urban Low Density Residential (R-10), 1.4 acres (1.4 percent) will be acquired.
- Of the 26.6 acres zoned Rural Residential (RA2), negligible acreage (0.1 percent) will be acquired.
- Of the 259.7 acres zoned Rural Residential (RRFF5), 20.9 acres (8.0 percent) will be acquired.

Impacts to Planned Development

Alternative 2 would have a negative impact on the planned Providence Medical Center and Hospital to the east of Rock Creek. Alternative 2 would not insure that Providence Medical Center and Hospital has the 30 net acres that it needs to accommodate the development of a full-service regional medical center over a 40-year period.

Residential and Business Access Impacts

A total of 132 local property accesses would be affected for all of Alternative 2, of which 17 would be residential and 102 employment. There are two access changes to businesses in Alternative 2 Zone D that would moderately impact business access because the new access route is somewhat indirect. The access to Arne's Produce Stand, which is currently on Highway 224, would be rerouted to a new frontage road. This frontage road would connect with the new arterial road that would connect existing Highway 212/224 and the existing Highway 224. The access to Bachman Paving Company would also be rerouted to this same frontage road. The access to the Windswept Waters Subdivision from Highway 224 would be change by the removal of the existing direct access. This would require the residents of this subdivision to use either Eckert Lane or the new frontage road to get to Highway 224.

Alternative 3- Build with no Midpoint Interchange

The only difference between Alternative 2 and Alternative 3 is the lack of a mid-point interchange in Zone B under Alternative 3. Therefore, Zone B is the only area where impacts between the Build Alternatives differ and the effects discussion presents only the differences in Zone B. Table 4 summarizes by zone the direct impacts of acquiring ROW in Alternative 3: number of lots impacted, land that must be acquired, buildings and residential units to be removed, and individual accesses affected, similar to Table 4 for Alternative 2. Only the totals for Zone B are different.

Table 4 Summary of Impacts for Alternative 3

	Alternative 3				
Effects Of Alternatives & Design Options	**Zone A**	**Zone B**	**Zone C**	**Zone D**	**Total**
Total Number Of Lots In Analysis Zones	1121	931	464	853	3369
Total Number Of Lots Impacted By ROW	**150**	**36**	**25**	**48**	**259**
Total Number Of Acres In Analysis Zone	1588.4	837.2	484.9	756.8	3667.3
Total Acres Removed For ROW	**182.1**	**159.4**	**53.4**	**100.1**	**495.0**
Total Number Of Residential Units In Analysis Zone	2281	1429	873	762	5345
Total Number Of Residential Units To Be Removed For ROW	**27**	**5**	**33**	**7**	**72**
Total Number Of Single Family Units In Analysis Zone	523	760	354	762	2400
Number Of Single Family Units To Be Removed For ROW	**3**	**1**	**3**	**7**	**14**
Total Number Of Multifamily Units In Analysis Zone	1542	290	0	0	1832
Number Of Multifamily Family Units To Be Removed For ROW	**24**	**0**	**0**	**0**	**24**
Total Number Of Mobile Home Units In Analysis Zone	216	378	519	0	1113
Number Of Mobile Home Units To Be Removed For ROW	**0**	**3**	**30**	**0**	**34**
Total Number Of Residential Acres In Analysis Zone	253.1	227.6	251.8	389.8	1122.3
Number Of Acres Of Residential Land Removed For ROW	**3.8**	**3.6**	**11.0**	**20.9**	**39.2**
Total Number Of Acres Of Employment Land In Analysis Zone	747.8	363.5	37.3	33.9	1182.5

Number Of Acres Of Employment Land Removed For ROW	**73.1**	**30.1**	**9.3**	**4.4**	**116.9**
Total Number Of Acres Of Other Land In Analysis Zone	314.8	90.4	100.3	45.3	550.7
Number Of Acres Of Other Land Removed For ROW	**25.7**	**0.0**	**0.0**	**0.7**	**26.4**
Number Of Acres Of Existing Public ROW In Analysis Zone	272.7	155.8	95.6	287.8	811.9

Alternative 3 – Zone B

The overall ROW impacts of Alternative 2 in Zone B are minimal. Alternative 2 impacts 36 of 931 lots (3.9 percent), requiring 159.4 of 837.2 acres (19.0 percent) to be acquired, and 11 buildings that include 4 Residential Units(one single-family and three mobile home units) to be displaced. For comparison, the ROW impacts for Zone B in Alternative 2 were 178.0 acres and 16 buildings removed with the same residential displacements. The difference is due to the lack of a mid-point interchange, requiring less ROW.

Impacts to Vacant Land

A major portion (125.8) of the 159.4 acres required for ROW would be of vacant land. Of the 21 lots totaling 155.7 acres inventoried as vacant, 8 lots (38.1 percent) are impacted, and a total of 125.8 vacant acres (80.8 percent) must be acquired for ROW. No (0) buildings on vacant land are required to be removed.

Impacts to Residential Land and Residential Units

The overall ROW impacts on residential land and residential units by Alternative 3 in Zone B are identical to Alternative 2 and would be minimal. Only 3.6 of 227.6 acres of residential land (1.6 percent) would be required for ROW.

Seven (7) of 760 single family residential lots (0.9 percent) would be impacted, and 2.4 of 160.5 acres of single family residential land (1.5%) would be acquired. One (1) of 3 multi family residential lots (33.3 percent) would be impacted and 0.9 of 19.0 acres of multi family residential land (4.5 percent) would be acquired. Two (2) of 8 mobile home park lots (25.0 percent) would be impacted and 0.3 of 48.1 mobile home park acres (0.7 percent) would be acquired.

Four (4) of 1429 total residential units (0.3 percent) would be removed for new ROW including one (1) of 760 single family residences (0.1 percent) and three (3) of 378 mobile home park units (0.8%). The displacements would occur near the intersection of Hubbard Road and Highway 212/224. None of the 290 multi-family residences would be removed for Alternative 2 in Zone B.

Impacts to Employment Land

The overall ROW impacts on employment land by Alternative 3 in Zone B are minimal. A total of 363.5 acres in 99 lots have been inventoried in employment land categories; 30.1 of those

employment land acres and 7 building displacements would be required for ROW, 15.6 fewer acres of employment land compared to alternative 2.

Alternative 3 would impact the following employment land categories and buildings for ROW:

- Commercial: Of the 27.6 acres in 21 lots, 1 lot (4.8 percent) is impacted, requiring a negligible amount of land and no (0) buildings.
- Industrial: Of the 37 lots, 12 lots (32.4 percent) are impacted, requiring 17.3 of 65.7 acres (26.3 percent) and 5 buildings.
- Office Warehouse: Of the 11.0 acres in 8 lots, 1 lot (12.5 percent) is impacted, requiring a negligible amount of land and no (0) buildings.
- Warehouse: Of the 33 lots, 4 lots (12.1 percent) are impacted, requiring 12.8 of 259.2 acres (4.9 percent) and 2 buildings.

Impacts to Other Land Use Categories

As with Alternative 2, there are no impacts to Other land use categories in Zone B.

Impacts to Unique Land Uses

The identified wildlife corridor, which runs along the Clackamas Bluff, is impacted by the ROW of the Sunrise Project. Although the Sunrise Project is set below the bluff, the project would be constructed atop approximately 30 feet of fill, which would cover approximately the lower third of the bluff in the area of the wildlife corridor. (See Biology Technical Report for details.)

The portion of Camp Withycombe owned by ODOT was acquired to accommodate the Sunrise Project. The alignment would run the entire east-west length of the ODOT parcel and in the area below the forested bluff. Alternative 2 would require the removal of a number of equipment storage areas currently used by Camp Withycombe and the closure of the firing range.

Impacts by County Zoning Designation

Of the five (5) different Clackamas County zoning designations impacted in Zone B, the zones most affected by acquisition would be the Urban Low Density (R-20) and General Industrial (I3). These impacts are similar to Alternative 2. Alternative 3 would impact Light Industrial (I2) and Urban Low Density Residential (R-8.5) land less.

Alternative 2 impacts to all Clackamas County Zoning Designations in Zone A are as follows:

- Of the 418.9 acres zoned Light Industrial (I2), 29.9 acres (7.1 percent) will be acquired.
- Of the 30.3 acres zoned General Industrial (I3), 26.9 acres (88.8 percent) will be acquired.
- Of the 19.5 acres zoned Medium High Density Residential (MR2), 0.8 acres (4.3 percent) will be acquired.
- Of the 210.7 acres zoned Urban Low Density Residential (R-8.5), 11.1 acres (5.2 percent) will be acquired.
- Of the 90.7 acres zoned Urban Low Density Residential (R-20), 90.7 acres (100.0%) will be acquired.

Residential and Business Access Impacts

Because the alignment in Zone B would not have an interchange and because it occurs mostly on vacant land at the base of the Bluff and away from existing development, there would be no

access changes. This compares to minor access impacts on some businesses along Highway 212/224 under Alternative 2. Total access impacts for Alternative 3 would be 91, of which 14 would be residential and 63 employment.

Recent Approvals

There would be no difference between Alternatives 2 and 3 with respect to impacts on recent approvals. Readers are directed to the Zone B discussion under Alternative 2.

Design Options

There are six Design Options for the build alternatives, designated as A-2, B-2, C-2, C-3 D-2, and D-3. The letters correspond to the project Zones A, B, C, or D in which they are located. The design options are evaluated with Alternatives 2 and 3 and with other Design Options applied in the same Zone.

Design Option A-2, Zone A

Design Option A-2, described under Project Alternatives (above) can be part of either Alternative 2 or Alternative 3. This section compares the impacts of Design Option A-2 with both Alternatives 2 and 3.

The overall ROW impacts of Design Option A-2 in Zone A are minimal. Design Option A-2 impacts a 151 of 1,121 lots (13.5 percent), requiring 164.1 of 1,588.4 acres (10.3 percent) to be acquired, 18 acres less than under Alternatives 2 and 3. Less land would be acquired north of Lawnfield Road. Forty-five (45) buildings that include 27 residential units would be displaced. The details of these impacts are set out in the tables contained in Appendices D and J.

Impacts to Vacant Land

A smaller portion (68.7 acres) of the total ROW needed (164.1 acres) would come from vacant land under Design Option A-2 compared to Alternatives 2 and 3. Of the 87 lots totaling 272.7 acres inventoried as vacant, 23 lots (26.4 percent) are impacted, and a total of 68.7 acres (25.2 percent) must be acquired for ROW. One (1) building on vacant land would be required to be removed.

Residential Land and Residential Units

Residential impacts are the same as under Alternative 2 for Zone A: 3.8 acres of residential land to be acquired, and displacement of three (3) single family residential units and 24 multi family residential units. No residences in mobile home parks or in other land use categories would be removed.

Impacts to Employment Land

In Zone A, a total of 747.8 acres in 372 lots have been inventoried in employment land categories. The overall ROW impacts on employment land by Design Option A-2 in Zone A are minimal and very similar to Alternatives 2 and 3.

Design Option A-2 would impact the following employment land and buildings for ROW:

- Commercial: Of the 141 lots, 45 (31.9 percent) are impacted, requiring 17.3 of 214.1 acres (8.1%) and 16 buildings; this is very similar to Alternatives 2 and 3.
- Industrial: Of the 117 lots, 24 lots (20.5 percent) are impacted, requiring 30.5 of 217.0 acres (14.1 percent) and 6 buildings, one and one-half (1.5) acres greater than Alternatives 2 and 3.
- Office: Of the 40 lots, 13 lots (32.5 percent) are impacted, requiring 13.5 of 74.0 acres (18.3 percent) and 7 buildings; this is two (2) fewer buildings and three (3) fewer acres.
- Office Warehouse: Of the 20 lots, 4 lots (20.0%) are impacted, requiring 4.1 of 57.0 acres (7.2%) and 4 buildings; this is identical to Alternatives 2 and 3.
- Warehouse: Of the 54 lots, 12 lots (22.2%) are impacted, requiring 6.3 of 185.8 acres (3.4%) and 3 buildings.

Impacts to Other Land Uses

Design Option A-2 would impact six of the nine Other land use. Of the 69 lots identified in other land use categories in Zone A, 15 lots (21.7 percent) are impacted, and a total 20.0 (6.3 percent) of the 314.8 acres must be acquired for ROW. This is 5.7 fewer acres than Alternatives 2 and 3 for Zone A. One building would be removed. Open Space, Schools, and Community Uses are the same as Alternative 2. The only differences in impact are as follows:

- Military Uses: Of the 2 lots, 1 lot (50.0%) is impacted, requiring 1.0 of 78.1 acres (1.3 percent) and 0 buildings.
- Utilities Uses: Of the 12 lots, 3 lots (25 percent) are impacted, requiring 8.1 of 71.4 (11.3 percent) acres and 0 buildings.

Impacts by County Zoning Designation

Design Option A-2 has similar impacts on the thirteen different Clackamas County zoning designations as build Alternatives 2 and 3. The only significant differences are the following:

- Of the 192.9 acres zoned Business Park (BP), 34.3 acres (17.8 percent) instead of 50.6 acres (26.2 percent) will be acquired.
- Of the 480.3 acres zoned Light Industrial (I2), 58.1 acres (12.1 percent) instead of 57.1 acres (11.9%) will be acquired.
- Of the 62.2 acres zoned Office Commercial (OC), 0.6 acres (0.9 percent) instead of 3.5 acres (5.7%) will be acquired.

Unique Land Uses

Option A-2 would result in lower impacts to the KEX Radio Towers site. The new "north" Lawnfield alignment is not a part of Design Option A-2, so it would not affect the copper wire ground mat for tower 3 as described in Alternative 2, above. Impacts to other unique land uses in the area would be the same as described for Alternatives 2 and 3.

Residential and Business Access Impacts

Total access impacts for Alternative 2 with Design Option A-2 would be 105, of which 4 would be residential and 90 employment. This option differs from the connection under Alternatives 2 by connecting the 82nd Drive /Tolbert Road intersection with Industrial Way via a bridge over the UPRR mainline. The new bridge would connect the areas to the east of the rail line to the regional road system via 82nd Drive / 82nd Avenue. The 82nd Drive / Tolbert Road intersection would likely need to be a signalized to facilitate truck movement on to 82nd Drive. Total access

impacts for Alternative 3 with Design Option A-2 would be 85, of which 9 would be residential and 80 employment.

Design Option B-2, Zone B and Zone C

The ROW required for Design Option B-2 would cover land in both the B and C analysis zones. The comparison for Design Option B-2 is Alternative 2 only, as Alternative 3 does not have a mid-point interchange. The ROW impacts for Design Option B-2 in Zone B would be 180.9 acres and 24 buildings removed, including 7 dwelling units. This compares to 178.0 acres, 16 building displacements, and 4 residential units under Alternative 2 in Zone B. The ROW impacts for Design Option B-2 in Zone C would be 58.2 acres and 44 buildings displaced, including 34 dwelling units. This compares to 53.4 acres, 45 building displacements, and 33 residential units under Alternative 2 in Zone C. The additional acquisition would occur at the interchange with 130th Avenue. The details of these impacts are set out in the tables contained in Appendices E and J.

Impacts to Vacant Land

A major portion (127.3 acres) of the total acquisition for Design Option B-2 in Zone B (180.9 acres) would be land that is currently vacant, which is 81.8 percent of the 155.7 vacant acres in Zone B. This is little difference to Alternative 2.

In Zone C, 37.2 acres of 58.2 total acquisition of for Design Option B-2 are vacant land, which is 38.9 percent of the total supply of 95.6 vacant acres, compared to 34.6 percent of the vacant land supply in Alternative 2 in Zone C.

Impacts to Residential Land and Residential Units

The residential land impacts for Design Option B-2 would be 3.8 acres in Zone B (compared to 3.6 acres under Alternative 2) and 11 acres in Zone C, which is identical. In Zone B, for Design Option B-2, one (1) single-family residence and 6 mobile home units would be displaced (compared to 1 single-family and 3 mobile home park units in Alternative 2). In Zone C, 3 single family residential units, 30 mobile home park units, and one (1) residential unit in another land use category would be displaced (compared to 3 single-family and 30 mobile home park units in Alternative 2).

Impacts to Employment Land

In Zone B, Design Option B-2 would require 49.8 acres of land with employment uses, and 17 buildings would be removed for ROW. In Zone C, Design Option B-2 would require 10.0 acres with employment uses, and 10 buildings would be removed for ROW (comparisons with Alternative2 are in parentheses):

- Commercial land use: Zone B, 2.8 acres and 5 buildings (Alternative 2: 2.4 acres and 4 buildings); Zone C, 2.8 acres and 4 buildings (Alternative 2: 2.7 acres and 5 buildings).
- Industrial land use: Zone B, 28.7 acres and 10 buildings (Alternative 2: 27.4 acres and 6 buildings); Zone C, 7.2 acres and 6 buildings (Alternative 2: 6.6 acres and 6 buildings).
- Office Warehouse land use: Zone B, 0.1 acre and no buildings. (Alternative 2: identical)
- Warehouse land use: Zone B, 18.2 acres and two (2) buildings (Alternative 2: 15.8 acres and 2 buildings); Zone C: no measurable acquisition, no buildings in either alternative.

Impacts to Other Land Uses

No Other land use categories were impacted by Design Option B-2 in Zone B. Of the 30 lots identified in other land use categories in Zone C, 1 Open Space lot is impacted, but not in any measurable amount. These are the same as under Alternative 2.

Impacts by County Zoning Designation

Design Option B-2 has similar impacts on zoning designations as Alternative 2. Of the five (5) different Clackamas County zoning designations impacted in Zone B, the zones most affected by acquisition would be similar to Alternative 2. The Urban Low Density (R-20) would see all 90.7 acres (100.0 percent) converted to ROW. General Industrial (I3) would lose slightly more (95.6 percent as compared 88.8 percent), and Light Industrial (I2) would also lose slightly more at 11.9 percent, compared to 10.8 percent. R 8.5 would require 10.4 acres (4.9 percent) for ROW as compared to 6.6 percent for Alternative 2. Other zone categories are the same or negligible.

Of the five zoning designations impacted in Zone C, the zone category most affected would be Urban Low Density (R-20), which would see lose 86.4 percent (compared to 86.7 percent under Alternative 2) to ROW. The Light Industrial (I2) zone would lose slightly more land at 48.7 percent (compared to 43.3 percent) to ROW. Other zone categories are the same or negligible.

Residential and Business Access Impacts

Access to Sunrise Project would be provided at the Mid-Point Interchange via a new arterial road that connects Highway 212/224 at 122nd Avenue and at 130th Avenue. The construction of this interchange and the connecting arterial road would impact the local business community but these access changes are generally moderate in Zone B, compared to minor impacts of the Alternative 2 Zone B. The main difference is that access to the Clackamas River Mini Storage located on the north side of Hwy 212/224 at 130th Ave. would be relocated. The new access would be taken from a shared driveway located two blocks to the east, which would be extended westward to access the rear of the mini storage facility. Total access impacts for Alternative 2 with Design Option B-2 would be 44, of which 4 would be residential and 30 employment.

Changes in Zone C are the same as under as Alternative 2, Zone C.

<u>Design Option C-2 – Zone C</u>

The alignment for Design Option C-2 is closer to the existing Highway 212/224 and avoids some of the impacts of Alternative 2, which is further north in Zone C. This option requires somewhat less acreage and only about half the building displacements than under Alternative 2. The ROW required for Design Option C-2 impacts 31 of 464 lots (6.7 percent), requiring 40.1 of 484.9 acres (8.3 percent) to be acquired and 23 buildings that include 4 residential units to be displaced. The details of these impacts are set out in the tables contained in Appendices F and J.

Impacts to Vacant Land

A lower portion (19.1 acres) of the total ROW needed (40.1 acres) would come from vacant land under Design Option C-2 compared to Alternatives 2 and 3. Design Option C-2 acquisition would convert 20.0 percent of vacant land out of 95.6 acres total, compared to 33.1 acres (34.6 percent) under Alternatives 2 and 3.

Impacts to Residential Land and Residential Units

Design Option C-2 would require a total of 3.3 of 251.8 acres of residential land (1.3 percent) in Zone C. Four (4) single family units would be removed. None of the residences in multi family residential, mobile home park or in other land use categories would be removed. This compares to removal of 3 single family units and 30 multi-family units under Alternatives 2 and 3.

Impacts to Employment Land

Design Option C-2 would require a total of 17.8 acres of employment land and 19 employment building displacements for ROW in Zone C (comparisons to Alternatives 2 and 3 are in parentheses):

- Commercial land use: 2.7 acres and 4 buildings (Alternatives 2 and 3: 2.7 acres and 5 buildings).
- Industrial land use: 9.2 acres and 8 buildings (Alternatives 2 and 3: 6.6 acres and 6 buildings).
- Warehouse land use: 5.9 acres and 7 buildings (Alternatives 2 and 3: no land, no buildings).

Impacts to Other Land Uses

None of the 27 lots identified in Other land use categories in Zone C is impacted by the ROW for Design Option C-2, the same as under Alternatives 2 and 3.

Impacts by County Zoning Designation

Two zoning designations are impacted in Design Option C-2. Four zoning designations are impacted in Alternative 2. Of the 86.0 acres zoned as Light Industrial (I2) in Zone C, 38.8 acres (45.1 percent) would be acquired by ROW for Design Option C-2, roughly the same as in Alternative 2, which would require 37.3 acres (43.3 percent). Of the 67.0 acres zoned as Urban Low Density Residential (R8.5) in Zone C, 1.4 acres (2.1 percent) would be acquired by ROW for Design Option C-2, identical to Alternatives 2 and 3. There is no impact to Urban Low Density (R-20) zoned land in Design Option C-2, compared to 10.2 of 11.8 acres (86.7 percent) of R-20 land being converted under Alternatives 2 and 3. There is no impact to the MR1 zoned land in Design Option C-2, compared to 4.6 or 134.2 (3.4 percent) under Alternatives 2 and 3.

Residential and Business Access Impacts

The main difference between Design Option C-2 and Alternatives 2 and 3 for Zone C is that the Design Option would not require a change the access of the one residential unit from 142nd Avenue to the frontage road, so there would be no residential access impact north. The rest of the access impacts described under Zone C for the build alternatives would be the same for Design Option C-2. Total access impacts for Alternative 2 with Design Option C-2 would be 98, of which 7 would be residential and 81 employment. Total access impacts for Alternative 3 with Design Option C-2 would be 89, of which 6 would be residential and 79 employment.

Design Option C 3– Zone C

Design Option C 3 requires 64.0 of 484.9 acres (13.2 percent) and 53 building displacements including 35 residential units for ROW in Zone C. These impacts are slightly higher than under Alternatives 2 and 3 and Design Option C-2; however the residential displacements for Design

Option C 3 are much higher than under Design Option C-2. The details of these impacts are set out in the tables contained in Appendices G and J.

Impacts to Vacant Land

Of the total ROW needed (64.0 acres), 32.2 acres would come from vacant land under Design Option C-3, which is 33.7 percent of the 95.6 vacant acres in Zone C. This is similar to the 33.1 acres under Alternatives 2 and 3 and higher than the 19.1 acres required by Design Option C-2.

Impacts to Residential Land and Residential Units

Design Option C-3 alignment is further north of Highway 212/224 and avoids some of the impacts on industrial uses of Design Option C-2, but creates greater impacts on residential uses further north in Zone C. Design Option C-3 requires 16.3 of 251.8 acres of residential land (6.5 percent) for ROW, compared to 11 acres under Alternatives 2 and 3. Of the 35 residential units displaced, 4 would be single family and 30 would be residential units in mobile home parks; one additional unit is listed in another land use category, impacts similar to Alternatives 2 and 3, and much higher than the 4 single family units displaced under Design Option C-2.

Impacts to Employment Land

Design Option C-3 requires a total of 14.8 of 37.3 acres of employment land (39.6 percent) in Zone C, compared to 9.3 acres in Alternatives 2 and 3 and 17.8 acres under C-2. Design Option C-3 would require 13 building displacements, compared to 11 in Alternatives 2 and 3 and 19 in Design Option C-2. Specific land use category impacts by Design Option C-3 are as follows:

- Commercial land use: 2.9 acres and 4 buildings.
- Industrial land use: 10.3 acres and 8 buildings.
- Warehouse land use: 1.5 acres and 1 building.

Impacts to Other Land Uses

Impacts to Other Land Uses are very similar to those in Alternative 2, which are negligible. The only difference is that Design Option C-3 would impact 0.8 acres of the 21.8 acres of Open Space land (3.8 percent) compared to no impact under Alternative 2.

Impacts to Unique Land Uses

With respect to unique land uses, the alignment of Option C-3 has a greater impact on the wildlife corridor between 135th Avenue and approximately 147th Avenue. Proceeding eastward from about 135th Avenue, the Sunrise Project alignment begins to swerve to the north of where it is located in Alignment 2, cutting into the bluff. At its furthest north point in the section, the ROW is located approximately 300 to 400 feet north of the Alternative 2 alignment. Then the Sunrise Project curves south again and eventually re-joins the Alternative 2 alignment at approximately 147th Avenue. Reviewers are directed to the Biology Technical Report for environmental impacts that this option would have on the functions and values of the Wildlife Corridor.

Impacts to County Zoning Designations

Of the six Clackamas County zoning designations impacted in Zone C, the Urban Low Density Residential (R-15 and R-20) designations would be most impacted by conversion to ROW, requiring 10.2 of 11.8 acres (86.7 percent) of R-20 land (identical impact as Alternative 2) and

4.1 of 7.6 acres of R-15 (54.0 percent). There is no impact to R020 land in Alternative 2. This impact would be greater than the impacts of Design Option C-2. The other most affected designation would be Light Industrial (I2), which would convert 32.9 of 86.0 acres to ROW, slightly less than the impacts under the other alternatives and Design Option C-2. FU 10 is impacted by Design Option C-3, but not by any other alternative. It requires 5.5 of 102.7 acres (5.3 percent).

Residential and Business Access Impacts

There are no additional access changes created in Zone C by Design Option C-3, compared to Alternative 2. Total access impacts for Alternative 2 with Design Option C-3 would be 56, of which 6 would be residential and 41 employment. Total access impacts for Alternative 3 with Design Option C-3 would be 75, of which 5 would be residential and 42 employment.

Design Option D-2, Zone D

Design Option D-2 would require 94.1 of 756.8 acres (12.4 percent) for ROW in Zone D and displace 9 building, including 8 dwelling units. The impacts are comparable in magnitude to those under Alternatives 2 and 3. The details of these impacts are set out in the tables contained in Appendices H and J.

Impacts to Vacant Land

Of the total ROW needed (94.1 acres), 67.1 acres containing one (1) building would come from vacant land under Design Option D-2, which is 23.3 percent of the 287.8 vacant acres in Zone D. This compares to 74.2 acres (containing 2 buildings) under Alternatives 2 and 3.

Impacts to Residential Land and Residential Units

The impacts of Design Option D-2 are almost identical to the impacts of Alternatives 2 and 3 in Zone D. A total of 20.8 of 389.8 acres (5.3 percent) of residential land would be acquired, and 8 of 756 single family residential units (5.3 percent) would be displaced. Under Alternatives 2 and 3, 20.9 acres of residential land (5.4 percent) would be acquired; 5 single family residential units and two (2) residential units in other land use categories would be displaced. No mobile home parks or multi-family land or units would be affected in either alternative.

Impacts to Employment Land

Design Option D-2 impacts are slightly higher than those under Alternatives 2 and 3 in Zone D. Design Option D-2 would require a total of 5.5 of 33.9 acres (16.3 percent) of employment land to be converted to ROW and three (3) building removed in Zone D, compared to 4.4 acres and one (1) building displacements in Alternatives 2 and 3. Individual employment type impacts are as follows:

- Commercial land use: 3.2 acres and 2 buildings.
- Industrial land use: 2.3 acres and 1 building.

Impacts to Other Land Uses

Impacts by Design Option D-2 on Other land use categories in Zone D are the same as Alternatives 2 and 3.

Impacts by County Zoning Designation

Of the seven Clackamas County zoning designations impacted in Zone D, Design Option D-2 would affect the Exclusive Farm Use zoning designation the greatest, converting 56.9 of 185.0 acres (30.8 percent) of EFU land in the zone to ROW, slightly less than required by Alternatives 2 and 3. All other zoning categories have identical impacts compared to Alternatives 2 and 3 for Zone D.

Residential and Business Access Impacts

The access impacts of Design Option D-2 in Zone D are the same as those for Alternatives 2 and 3. Total access impacts for Alternative 2 with Design Option D-2 would be 93, of which 5 would be residential and 79 employment. Total access impacts for Alternative 3 with Design Option D-2 would be 70, of which 5 would be residential and 57 employment.

Design Option D-3, Zone D

The interchange design in Design Option D-3 requires less ROW than under the other options for Zone D. Design Option D-3 would require 86.5 of 756.8 acres (11.4 percent) for ROW and displace 11 buildings, including 8 residential units. In general, the ROW impacts are slightly lower than those under Alternatives 2 and 3 and Design Option D-2. The details of these impacts are set out in the tables contained in Appendices I and J.

Impacts to Vacant Land

Of the total ROW needed (86.5 acres), 59.3 acres (containing 2 buildings) would be vacant land under Design Option D-3, which is 20.1 percent of the 287.8 vacant acres in Zone D. This is 14.9 fewer vacant acres than Alternatives 2 and 3 and 7.8 fewer vacant acres and one (1) additional building displacement than Design Option D-2, in Zone D.

Impacts to Residential Land and Residential Units

The impacts of Design Option D-3 are almost identical and impacts to residential land are identical to the impacts of Alternatives 2 and 3 in Zone D. One additional single family residential unit would be displaced by Design Option D-3, and all other impacts to residential units are identical to Alternatives 2 and 3. Compared to Design Option D-2, there is no difference in total impacts. Impacts are very slightly greater for Single Family Residential units and slightly lower for residential units in other land use categories.

Impacts to Employment Land

Design Option D-3 impacts are almost identical to Design Option D-2 and slightly higher than those under Alternatives 2 and 3 in Zone D. A total of 5.7 of 33.9 acres (16.8 percent) of employment land would be converted to ROW in Zone D. Individual employment type impacts are as follows:

- Commercial land use: 3.4 acres and 2 buildings.
- Industrial land use: 2.3 acres and 1 building.

Impacts to Other Land Uses

Impacts on Other land use categories in Zone D are identical to Alternatives 2 and 3 and to Design Option D-2.

Impacts to County Zoning Designations

Design Option D-3 has slightly less impact in Zone D than either Alternatives 2 and 3 or Design Option D-2. Of the seven Clackamas County zoning designations impacted in Zone D, Design Option D-3 would affect the Exclusive Farm Use zoning designation the greatest, converting 49.0 of 185.0 acres (26.5 percent) of EFU land in the Zone D ROW. The next greatest impact would be on the Future Urban designation, requiring 12.9 of 74.9 acres of FU-10 (17.2 percent). Very slightly more Rural Residential (RRFF5) zoned land would also be required. All other zoning categories have identical impacts compared to Alternatives 2 and 3 and to Design Option D-2 for Zone D.

Impacts to Planned Development

Design Option D-3 is expected to most closely meet the future developable land needs of Providence Medical Center. Design Option D3 provides approximately 27 buildable acres at the top of the ridge line.

Residential and Business Access Impacts

Total access impacts for Alternative 2 with Design Option D-3 would be 85, of which 7 would be residential and 65 employment. Total access impacts for Alternative 3 with Design Option D-3 would be 79, of which 7 would be residential and 61 employment. Design Option D-3 would have the same access changes as Alternative 2 and 3, Zone D.

Temporary Impacts

Zone D is the one place in the entire analysis area where the construction impact area is greater than the ROW area. This occurs in the area of Windswept Waters, a recently approved residential development between the Clackamas River and Highway 224. ODOT defined the construction area greater than the ROW because the agency determined that temporary construction easements might be needed here because of the topography of the area and the unknown location of the new development.

Construction of Design Options D-2 and D-3 would affect an additional area to the west of existing Highway 224.

Indirect Effects

Alternative 1

Alternative 1 would produce a number of negative indirect impacts in the vicinity of the Sunrise Project. The most noticeable of these indirect impacts would be increased traffic congestion on the existing highway system and on the arterial road projects that are common to all alternatives. This traffic congestion would grow from currently forecast levels and would spread to parts of the arterial system that currently are not congested because there is not enough system capacity to meet the demand for travel. The Transportation Technical Report should be consulted for details on the transportation impacts of Alternative 1.

Congestion would have a negative impact on the industrial land uses in the vicinity of the Sunrise Project. Increasing travel times for truck moving freight through the area would raise transportation costs for local businesses. These impacts would adversely affect the long term

viability of the Clackamas Industrial Area as a regional center for the distribution of freight and food. Congestion would make it harder for customers to access the retail facilities located at the Clackamas Town Center and north of the Town Center along 82nd Avenue.

Congestion would make it harder to reach uses located in the vicinity of the Sunrise Project and harder to provide services to the developing lands, within the UGB, to the east and the south of the land use study area. This would ultimately impact the residents of the 25,000 new residential units planned for the new urban area and the future employees that are expected to work in the 45,000 jobs forecasted for the new urban area. Future employees in the service and retail sectors in these newly urbanizing areas are expected to be particularly impacted by the increasing congestion. Many of these employees are expected to live in more affordable neighborhoods closer to the center of the region and would commute out to work at jobs in the new urbanizing areas to the east and south of the Sunrise Project. It is also notable that the retail and service workers are more likely to be members of Environmental Justice populations. The Socio-economic Technical Report should be consulted for details on the impacts of Alternative 1 on neighborhoods and Environmental Justice populations.

As the area in the vicinity of the Sunrise Project and the urbanizing areas to the east and the south develop, the demand for public transit would increase. This development may eventually support more transit service than is currently assumed as part of this analysis. On the other hand, if future transit service is bus transit, it would also be negatively impacted by congestion with Alternative 1.

Alternative 1 may have a negative impact on the planned Providence Medical Center and Hospital to the east of Rock Creek. Alternative 1 would allow the Providence Medical Center and Hospital to retain the 30 net acres that it needs to accommodate this development. However, the increased congestion and reduced access to the regional freeway system would have a negative impact on the project.

Alternative 2

Recently approved residential developments (see Existing Conditions, Recent Approvals) are expected to be constructed on the vacant lands in the vicinity of the Sunrise Project until all available sites are developed. Alternative 2 would have a negative impact on the future residents of these areas because of the expected increase in traffic on the arterial road system that would service the newly developed residential areas and the existing residential area in the vicinity of the Sunrise Project.

By providing capacity on the road network, Alternative 2 would support development of the new urban areas brought into the UGB in 2002. Alternative 2 would help to limit the growth of traffic congestion in the vicinity of the Sunrise Project, on the existing highway system and on the arterial road projects that are common to all alternatives. While traffic congestion is expected to grow in many places from its currently forecast levels and is expected to spread to parts of the arterial system that currently are not congested, Alternative 2 would provide additional through movement capacity to meet the demand for regional travel. This additional highway capacity would help control transportation costs for local business and facilitate truck freight movements in the area. These impacts would help support the long-term viability of the Clackamas Industrial Area as a regional center for the distribution of freight and food. Likewise, Alternative

2 would help control the transportation costs for the manufactures located in this area and for customers to access the retail facilities located at the Clackamas Town Center and north of the Town Center along 82nd Avenue.

As previously discussed in this report induced land use growth is negligible effect associated with the construction of major new urban road facilities in Oregon. The decisions as to where new urban development will occur are made within the policy framework of local land use planning. Major road facilities tend to follow development, not necessarily lead it or cause it, in large part because the state road financing system is relatively weak in Oregon. As a result of this development pattern, the Sunrise Project build alternatives are not expected to induce substantial amounts of growth on vacant land. Rather this project is expected to meeting the needs of the existing development pattern and of those areas that are already planned for development in the Newly Urbanized Area, the Recent UGB Expansion Area or the Future Expansion Area for the UGB:

Alternative 2 would support the planned location of 25,000 new residential units planned for the area to the east of the project and the location of 45,000 jobs forecasted for this same area. The new urban areas in East Happy Valley and Damascus are expected to develop their own community cohesion over time and as a result it is anticipated that there would be increased demands on local community facilities, such as parks and schools in the areas to the east and south of the Sunrise Project.

Alternative 3

Indirect effects under Alternative 3 are the same as under Alternative 2.

Design Options A-2, C-2, C-3, D-2, and D-3

Impacts of these design options are the same as Alternatives 2 and 3.

Design Option B-2

The indirect effects for Design Option B-2 are as the same as Alternative 2.

Policy and Plan Impacts

Alternative 1

Not constructing the project under Alternative 1 would conflict with the Metro's 2004 RTP and the Clackamas County Comprehensive Plan which identified the need for the Sunrise Project as a regional highway facility and freight route. Alternative 1 would not meet the goals of the Oregon Transportation Plan with respect to improved freight movement in the Highway 212 Corridor.

To the extent that Alternative 1 results in limited freight connections and increased congestion, it conflicts with the Comprehensive Plans of Clackamas County and Happy Valley, and is expected to conflict with the future Comprehensive Plan of Damascus which include the Sunrise Project. .

Alternative 1 would be less compatible with local plans by indirectly reducing the ability of the urban area to develop in the manner envisioned in the local government comprehensive plans

due to increased congestion and the lack of a through freight route connecting I-205 and US 26. This is particularly a concern for areas planned for employment uses, since employment uses tend to have a greater need for excellent access and be more sensitive to congestion than residential or local services development.

Alternative 2

Alternative 2 complies with the Metro's 2004 RTP (see 2004 RTP: Figure 1.13: Regional Motor Vehicle System, Figure 1.4: Regional Street Design System and Figure 1.18 Regional Freight System) and the Clackamas County Comprehensive Plan (see Comprehensive Plan Figure V-3 and Table V-1). These policy documents identify the need for the Sunrise Project as a regional highway facility and freight route. Likewise, Alternative 2 meets the goals of the Oregon Transportation Plan with respect to improved through freight movement in the Highway 212 Corridor. Alternative 2 also complies with the Transportation Planning Rule because Metro's 2004 RTP, which includes the Sunrise Project, complies with the Transportation Planning Rule.

Alternative 2 is in compliance with the existing Happy Valley Comprehensive Plan and Transportation System Plan. The East Happy Valley Comprehensive Plan process is currently under way and it would result in additions to the Happy Valley Comprehensive Plan. These future changes are based on the Damascus/Boring Concept Plan which assumed that a facility similar to Alternative 2 would be built. It is therefore anticipated that Alternative 2 would continue to be in compliance the Happy Valley Comprehensive Plan and Transportation System Plan. Likewise it is anticipated that Alternative 2 would be in compliance the new Damascus Comprehensive Plan, which would also be based on the Damascus/Boring Concept Plan.

Alternative 3

The consistency of Alternative 3 with the plans and policies discussed in the Existing Conditions section is the same as consistency of Alternative 2.

Design Options A-2, C-2, C-3, D-2, and D-3

Impacts of these design options are the same as Alternatives 2 and 3.

Design Option B-2

The consistency of Design Option B-2 with the plans and policies is as the same as Alternative 2.

Cumulative Effects

Alternative 1

The past and reasonably foreseeable future actions that are associated with cumulative effects of Alternative 1 are described below.

- **Past Actions - Highway and Land Use Policies.** Major highway projects and land use policy decisions, previously discussed in this report, supported the urban development that occurred in the last 30 years in the vicinity of the Sunrise Project. Without these actions it is unlikely that the existing land use pattern would exist in the vicinity of the Sunrise Project. The effects of these decisions would continue to support future urban development in the Sunrise Project vicinity and in the newer urban areas to the south and east. It is unlikely that the demand for future transportation facilities would be as great in the southeastern quadrant of the region without effects of these previous decisions. The cumulative effects of

Alternative 1, in combination with past highway and land use policy actions, would be to continue to support future urban development in the Sunrise Project vicinity and in the newer urban areas to the south and east.

- **Future Actions - Highways and Arterial Road Facilities.** The future road projects common to all alternatives which were discussed earlier in this document are expected to occur in support of the developing urban areas. These projects would support the expanding urban area in the new additions to the UGB. While the projects would not be enough by themselves to provide adequate transportation infrastructure to support the new urban development, they would provide enough accessibility to allow development to occur for the foreseeable future. The future arterial road facilities would contribute to the increasing congestion in the Sunrise Project vicinity. This congestion would negatively impact the mobility of existing and future populations in the study area. The cumulative effects of Alternative 1, in combination with the future highway and road projects common to all alternatives, would be to negatively impact this future transportation system by allowing increased congestion to affect the future arterial road system and freight movement on these main roads and the land uses along these roads.
- **Future Actions - Future land development**. Future land development patterns in the vicinity of the Sunrise Project are envisioned in local government comprehensive plans; in urban and future urban areas this includes industrial and other employment, residential and centers development. The ability to achieve this development pattern is expected to be impacted by increased congestion and the lack of a through freight route connecting I-205 and US 26. The extent of this impact cannot be estimated at this time; likewise the extent of anticipated development that might occur regardless of the decision on the construction of the Sunrise Project is not easy to estimate. However, it appears that the cumulative effects of Alternative 1, in combination with future development, would be increased congestion and limited freight access opportunities, which is expected to have the effect of limiting employment and other types of development envisioned in local plans.
- **Future Actions - Water Service Expansion.** Water providers are expected to continue expanding their water provision and distribution systems within the existing and future UGB areas. Sunrise Water Authority plans to put a new water treatment plant, wells and a district office at the northwest of the intersection of 172nd Avenue and Armstrong Circle. These expansions would be necessary to meet the future demand of land development. The cumulative effects of Alternative 1, in combination with these water service expansions, would be minimal.
- **Future Actions - Sewer Service Expansion.** Sanitary sewer providers are expected to continue expanding their sewer collection systems within the existing and future UGB areas. These expansions would be necessary to meet the future demand of land development. The cumulative effects of Alternative 1, in combination with these sewer service expansions, would be minimal.
- **Future Actions – Local Government Legislative Zoning Changes.** Two large scale legislative zone changes are expected to occur in the vicinity of the Sunrise Project. The City of Happy Valley and the City of Damascus are currently working on large legislative re-zonings. The East Happy Valley Comprehensive Plan Area and in the new City of Damascus legislative zone changes are expected to be completed during the next 2 to 5 years. The results of these processes would be a set of public policies to guide the future development of the land that was brought into the UGB in 2002. These local zoning changes are expected to

be based on a road network that includes greater increases in traffic capacity than is provided by Alternative 1. The cumulative effects of Alternative 1, in combination with these future local government legislative zone changes, would be increased congestion and inadequate access for the employment areas and mixed use centers that are expected to be provided for in the zoning changes.

- **Future Actions - Bicycle Network and Related Projects.** The development of future area road improvements common to all alternatives would result in an increase in the number of bike lanes and pedestrian facilities in the vicinity of the Sunrise Project. These bike and pedestrian facilities would increase the opportunity for alternative forms of travel in the vicinity of the Sunrise Project and in the new urban areas to the south and east. The cumulative effects of Alternative 1 in combination with bicycle network and related projects is expected to be greater congestion on roads and thus safety concerns for bicycle lanes on roadways, but no impact on the I-205 multi-use path or other separated facilities.
- **Future Actions - Parks and Recreation.** Parks providers are expected to implement plans to establish new parks, greenspaces, natural resources areas, and trails or linear parks in the vicinity of the Sunrise Project. The North Clackamas Parks and Recreation District and Metro have generally identified planned parks, trails and greenways systems. The extent to which these plans would be implemented would depend primarily on the availability of future resources for park acquisition and construction. NCPRD and Metro have identified a proposed trail system in the vicinity of the Sunrise project. The cumulative effects of Alternative 1 in combination with these parks and trails plans would not be large.

Alternative 2

Cumulative impacts on land use are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. The past and reasonable foreseeable future actions that are associated with cumulative effects of Alternative 2 are described below.

- **Past Actions - Highway and Land Use Policies.** It is unlikely that the demand for future transportation facilities would be as great in the southeastern quadrant of the region absent previous major highway projects and land use policy decisions. The cumulative effects of Alternative 2, in combination with past highway and land use policy actions, would be to continue to support future urban development in the Sunrise Project vicinity and in the newer urban areas to the south and east.
- **Future Actions - Highways and Arterial Road Facilities.** The future arterial road facilities would support the future development in the Sunrise Project vicinity. In addition, Alternative 2 would support this future transportation system by carrying much of the through traffic and freight movement in the corridor. The cumulative effects of Alternative 2, in combination with the future highway and road projects common to all alternatives, would be to positively impact this future transportation system by providing the capacity needed to manage congestion on the future arterial road system and accommodate freight movement as needed.
- **Future Actions - Future land development**. Future land development patterns in the vicinity of the Sunrise Project are envisioned in local government comprehensive plans; in urban and future urban areas this includes industrial and other employment, residential and centers development. The ability to achieve this development pattern is expected to be

impacted by increased congestion and the lack of a through freight route connecting I-205 and US 26. The extent of this impact cannot be estimated at this time; likewise the extent of anticipated development that might occur regardless of the decision on the construction of the Sunrise Project is not easy to estimate. Alternative 2 alone would not directly cause the future land development patterns in the Sunrise Project Area to occur. However, the cumulative effects of Alternative 2, in combination with regional and local land use decisions, would be to support future land development. Alternative 2 would support the ability of the urban area to develop in the manner envisioned in the local government comprehensive plans by providing increased accessibility and through freight route in the corridor connecting I-205 and US 26. Conversely, the future land use development in the areas to the east of the Sunrise Project would generate travel demand which would be in part met by the road capacity that would be available in Alternative 2.

- **Future Actions - Water Service Expansion.** Water providers are expected to continue expanding their water provision and distribution systems within the existing and future UGB areas. These expansions would be necessary to meet the future demand of land development. The cumulative effects of Alternative 2, in combination with these water service expansions, would be minimal. These impacts are described more completely in the Utilities Technical Report.
- **Future Actions - Sewer Service Expansion.** Sanitary sewer providers are expected to continue expanding their sewer collection systems within the existing and future UGB areas. These expansions would be necessary to meet the future demand of land development. The cumulative effects of Alternative 2, in combination with these sewer service expansions, would be minimal. These impacts are described more completely in the Utilities Technical Report.
- **Future Actions – Local Government Legislative Zoning Changes.** Two large scale legislative zone changes are expected to occur in the vicinity of the Sunrise Project. The East Happy Valley Comprehensive Plan Area and in the new City of Damascus legislative zone changes are expected to be completed during the next 2 to 5 years. The results of these processes would be a set of public policies to guide the future development of the land that was brought into the UGB in 2002. These local zoning changes are expected to be based on a road network that includes a facility similar to Alternative 2. The cumulative effects of Alternative 2, in combination with these future local government legislative zone changes, would be adequate levels of service including freight service for the residential and employment areas and mixed use centers that are expected to be provided for in the zoning changes.
- **Future Actions - Bicycle Network and Related Projects.** -- The development of future area road improvements common to all alternatives would result in an increase in the number of bike lanes and pedestrian facilities in the vicinity of the Sunrise Project. Alternative 2 itself provides an additional multi-use trail from the I-205 / Sunrise Project Interchange to the 122nd Avenue. The cumulative effects of Alternative 2 in combination with bicycle network and related projects is expected to be greater increase the opportunity for alternative forms of travel in the vicinity of the Sunrise Project and in the new urban areas to the south and east. These effects are described more completely in the Transportation Technical Report.
- **Future Actions - Parks and Recreation.** Parks providers are expected to implement plans to establish new parks, greenspaces, natural resources areas, and trails or linear parks in the vicinity of the Sunrise Project. The North Clackamas Parks and Recreation District and

Metro have generally identified planned parks, trails and greenways systems. The extent to which these plans would be implemented would depend primarily on the availability of future resources for park acquisition and construction.

NCPRD and Metro have identified a proposed trail system in the vicinity of the Sunrise project. Although the final alignments of these trails are not known at this time, the location of Alternative 2 bridges at or near these locations would allow the proposed trails to cross under the Project and continue to their proposed destinations. The NCPRD trail system contains a trail that is fairly similar to the Metro Clackamas Bluff Trail. This trail is depicted as paralleling the Sunrise Project Alternative 2 as it travels below the Wildlife Corridor. It is possible that the Bluff Trail may be located on this route in the future or it may be rerouted to avoid impacting this natural resource. The cumulative effects of Alternative 2 in combination with these parks and trails plans is expected to be positive. The construction of Alternative 2 may in fact create some additional portions of the bike and recreational trail system envisioned by NCPRD and Metro.

Alternative 3

Cumulative impacts on land use under Alternative 3 would effectively be the same as under Alternative 2 because the relative differences between the two are small with respect to the impacts of the whole project.

Design Options A-2, C-2, C-3, D-2, and D-3

Impacts of these design options are the same as Alternatives 2 and 3.

Design Option B-2

The cumulative effects under Design Option B-2 are the same as Alternative 2.

Mitigation Measures

Alternative 1

Since the main impact of not building the Sunrise Project would be increased congestion and other spillover effects, and other measures alone are not predicted to remedy the congestion, other mitigation measures would not be able to completely mitigate the impact. No other measures are proposed.

Alternative 2

Alternative 2 requires a number of mitigation measures to reduce the impacts of the project on the land use in the Study Area. No mitigation measures have been proposed for Zones B and C.

Alternative 2 – Zone A

KEX officials should be contacted to ensure that previously established mitigation measures are implemented or revised as necessary, with respect to the relationship of the Sunrise Project to the KEX facilities.

Lawnfield Industrial Area. Mitigation measures suggested to address changes in access include:

- Build "Lawnfield North Connection" to SE 97th Avenue and the Sunnybrook/Sunnyside Interchange
- Build "Lawnfield South Connection" to SE Industrial Way / SE 102nd Avenue / Highway 212/224
- Build bridge connecting SE Industrial Way to SE 82nd Drive on a structure over the rail corridor via SE Tolbert Street.
- Install a signal on SE 82nd Drive at SE Tolbert Street
- Build SE 98th Avenue extension to SE Mather Road
- Relocate Oregon Iron Works rail spur to the north of SE Lawnfield Road to maintain this freight access to the area.

Clackamas Area. Mitigation measures suggested to address access changes include:
- Install a signal on SE 82nd Drive at SE Jannsen Road
- Install a signal on SE 82nd Drive at SE Clackamas Street
- Keep a bike / pedestrian access from SE Adams to SE 82nd Drive
- Maintain bike / pedestrian crossing at SE 82nd Dr. & Highway 212/224
- Use retaining walls to avoid the recreation grounds at the Clackamas Elementary School site.

Ambler Road area. Alternative 2 impacts the area accessed by SE Ambler Road south of UPRR with a major access change. A mitigation measure suggested to address this includes:
- Build SE Jasmine Lane connection on a structure over the rail corridor between SE Ambler Road and SE Oak Bluff Boulevard

Alternative 2 – Zone D

Rock Creek Employment Area. The greatest mitigation for the impacts of Alternative 2 on the future Rock Creek Employment Area planned near the Rock Creek junction, the proposed Providence Medical site, would be selecting the design option that has the least impact on that site. Other design features that could be explored are minimizing the north-south width of the facility and using retaining walls to limit the limit the width of the ROW and reduce the intrusion of the project on to the Providence site.

Orchard Lakes. Alternative 2 impacts the Orchard Lakes subdivision by proposing major access changes. Mitigation measures suggested to address this include:
- Install a signal on Highway 224 at SE Eckert Lane
- Maintain a pedestrian / bike access to Highway 224 at the closed Goose Hollow Lane entrance to the subdivision.

Alternative 3

Mitigation measures for Alternatives 3 are the same as those for Alternative 2 in Zones A and D. No mitigation measures would be proposed for Zones B and C under Alternative 3:

Design Options A-2, C-2, C-3, D-2, and D-3

Mitigation measures for these design options are the same as Alternatives 2 and 3.

Design Option B-2

The mitigation measures for Design Option B-2 Alternatives are as the same as Alternative 2.

Enhancement Opportunities

Alternative 2

Alternative 2 offers limited enhancement opportunities because most of the land in the vicinity of the Sunrise Project is already developed.

Alternative 3

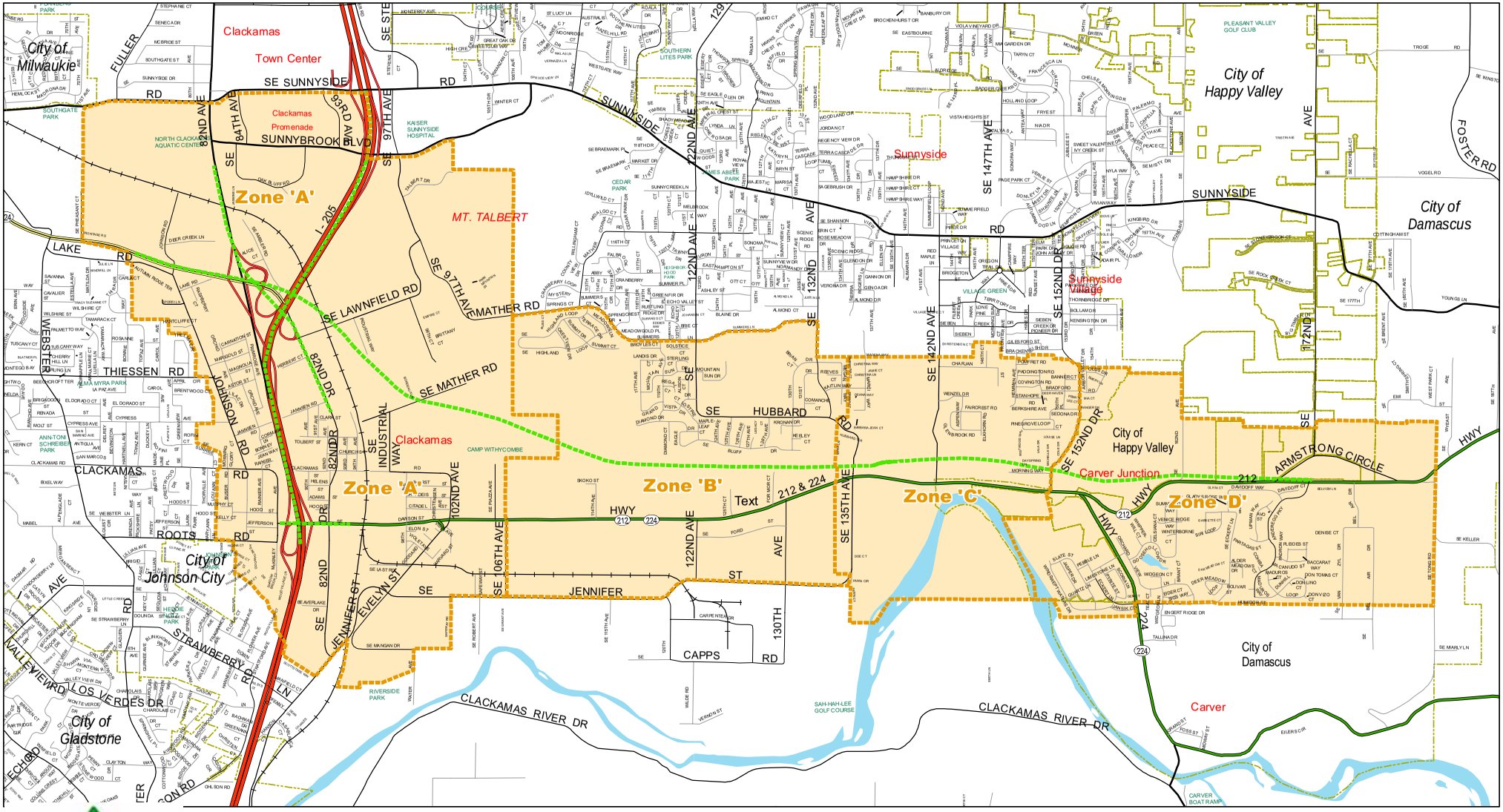
Alternative 3 offers limited enhancement opportunities because most of the land in the vicinity of the Sunrise Project is already developed.

Design Options A-2, C-2, C-3, D-2, and D-3

Enhancement opportunities for these design options are the same as Alternatives 2 and 3.

Design Option B-2

The enhancement opportunities for Design Option B-2 Alternatives are as the same as Alternative 2.



CLACKAMAS COUNTY
GEOGRAPHIC INFORMATION SYSTEMS
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
PO BOX 1510 CLACKAMAS, OR 97015

1:24,000

Legend

Sunrise Project Alignment

Land Use Study Zones (A, B, C, and D)

Sunrise Project
I-205 to Rock Creek Junction

Land Use Study Area Figure 13

Sunrise Project, I-205 to Rock Creek Junction

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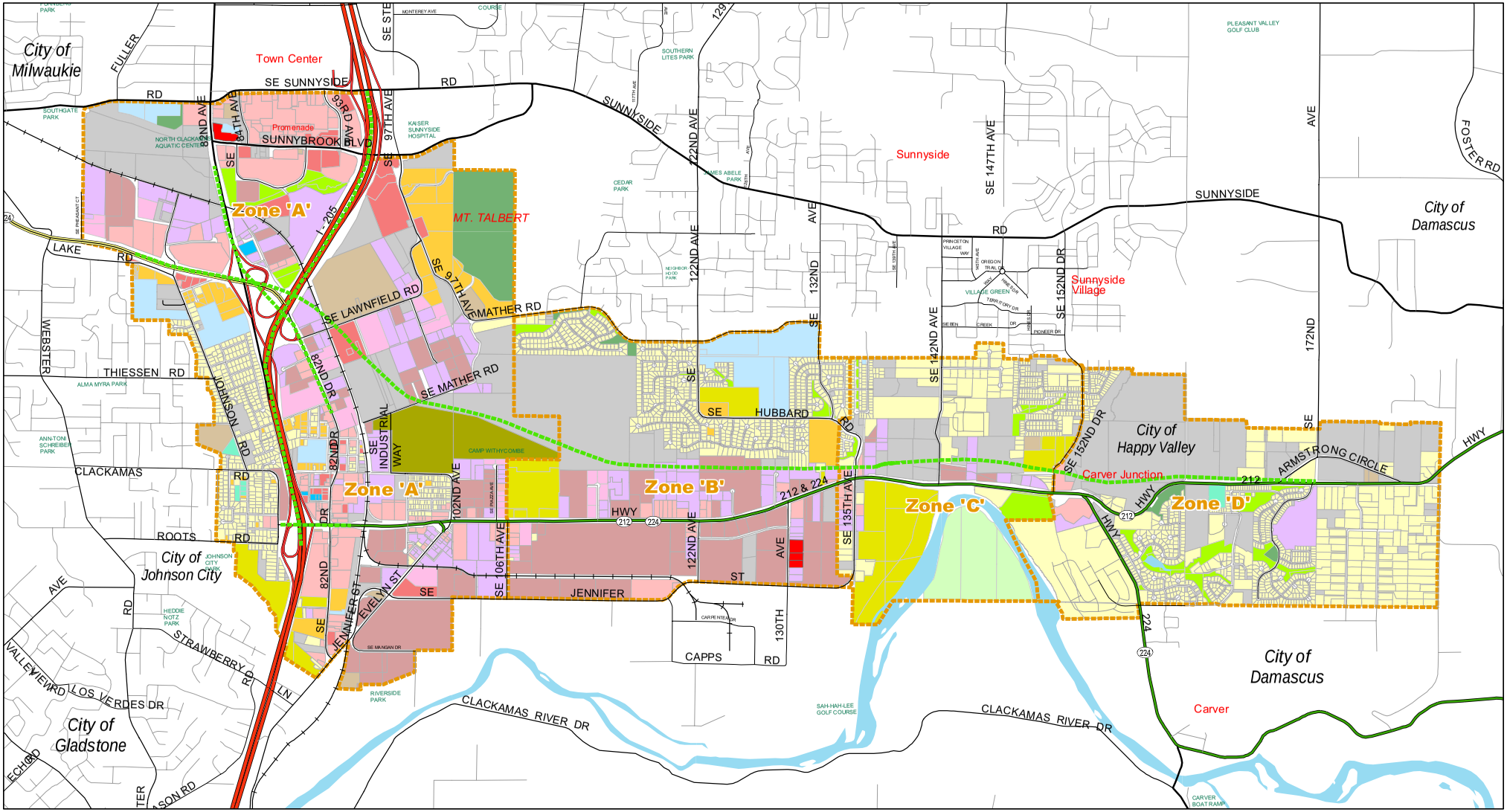

Sunrise Project Alignment

Land Use Study Zones (A, B, C, D)

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LAND USE CATEGORY

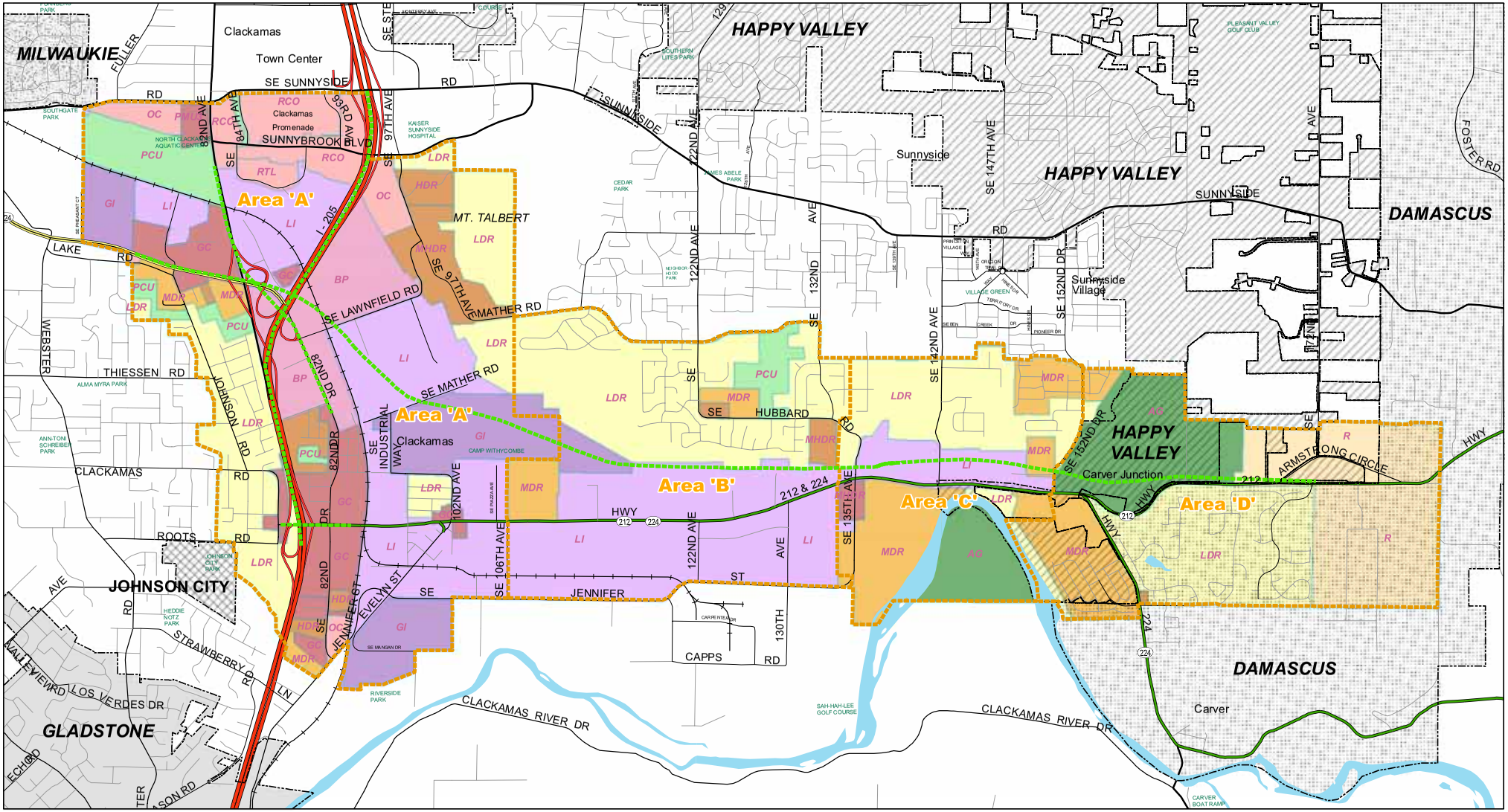
- Ag Lands
- Open Space
- Park
- Single Family Dwelling
- Mobile Home Park
- Multi Family Dwellings
- Schools
- Community Uses
- Church
- Commercial
- Office
- Emergency Services
- Industrial
- Office Warehouse
- Warehouse
- Military
- Utilities
- Vacant
- (Not Included in Study)

Sunrise Project
I-205 to Rock Creek Junction

EXISTING LAND USE (May 2006)

Figure 14

Sunrise Project, I-205 to Rock Creek Junction



CLACKAMAS COUNTY

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COMPREHENSIVE PLAN

- Agriculture (AG)
- Public Community Use (PCU)
- Low Density Res. (LDR)
- Rural (R)
- Medium Density Res. (MDR)
- Village Residential (VR57)
- High Density Residential (HDR)
- Med./High Density Res. (MHDR)
- Office Commercial (OC)
- Regional Center Commercial (RCC)
- Regional Center Office (RCO)
- Retail Commercial (RTL)
- General Commercial (GC)
- Planned Mixed Use 3 (PMU3)
- Corridor Commercial (CC)
- Business Park (BP)
- Light Industrial (LI)
- General Industrial (GI)
- Land Use Sub-Areas (A, B, C, D)
- Sunrise Project Alignment

Sunrise Project
I-205 to Rock Creek Junction

Clackamas County Comprehensive Plan

Figure 15

Sunrise Project, I-205 to Rock Creek Junction

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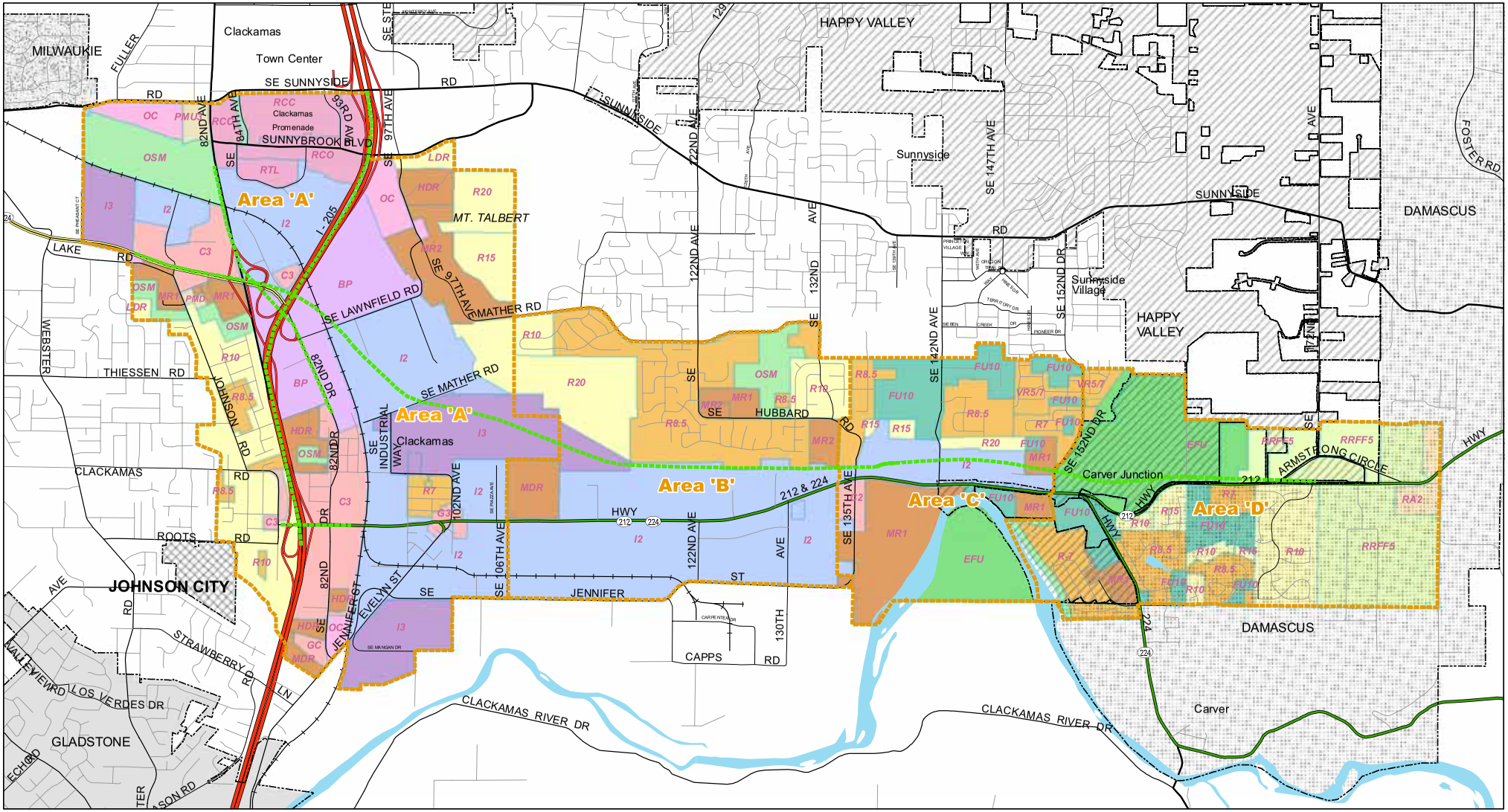

CLACKAMAS COUNTY
GEOGRAPHIC INFORMATION SYSTEMS

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ZONING DESIGNATIONS

- Open Space Management (OSM)
- Exclusive Farm Use (EFU)
- Rural Res. Farm/Forest (RRFF5)
- Future Urban (FU10)
- Rural Single Family Res. (RA2)
- Urban, Low Density Res. (R10)
- Urban, Low Density Res. (R15)
- Urban, Low Density Res. (R20)
- Urban, Low Density Res. (R8.5)
- Urban, Low Density Res. (R7)
- Village Residential (VR57)
- High Density Residential (HDR)
- Medium Density Res. (MR1)
- Medium High Density Res. (MR2)
- Planned Medium Density Res. (PMD)
- Planned Mixed Use (PMU3)
- Community Commercial (C2)
- General Commercial (C3)
- Neighborhood Commercial (NC)
- Office Commercial (OC)
- Business Park (BP)
- Regional Center Commercial (RCC)
- Regional Center Office (RCO)
- Retail Commercial (RTL)
- Light Industrial (I2)
- General Industrial (I3)
- Land Use Sub-Areas (A, B, C, D)
- Sunrise Project Alignment

Sunrise Project
I-205 to Rock Creek Junction

Clackamas County Zoning Designations

Figure 16

Sunrise Project, I-205 to Rock Creek Junction

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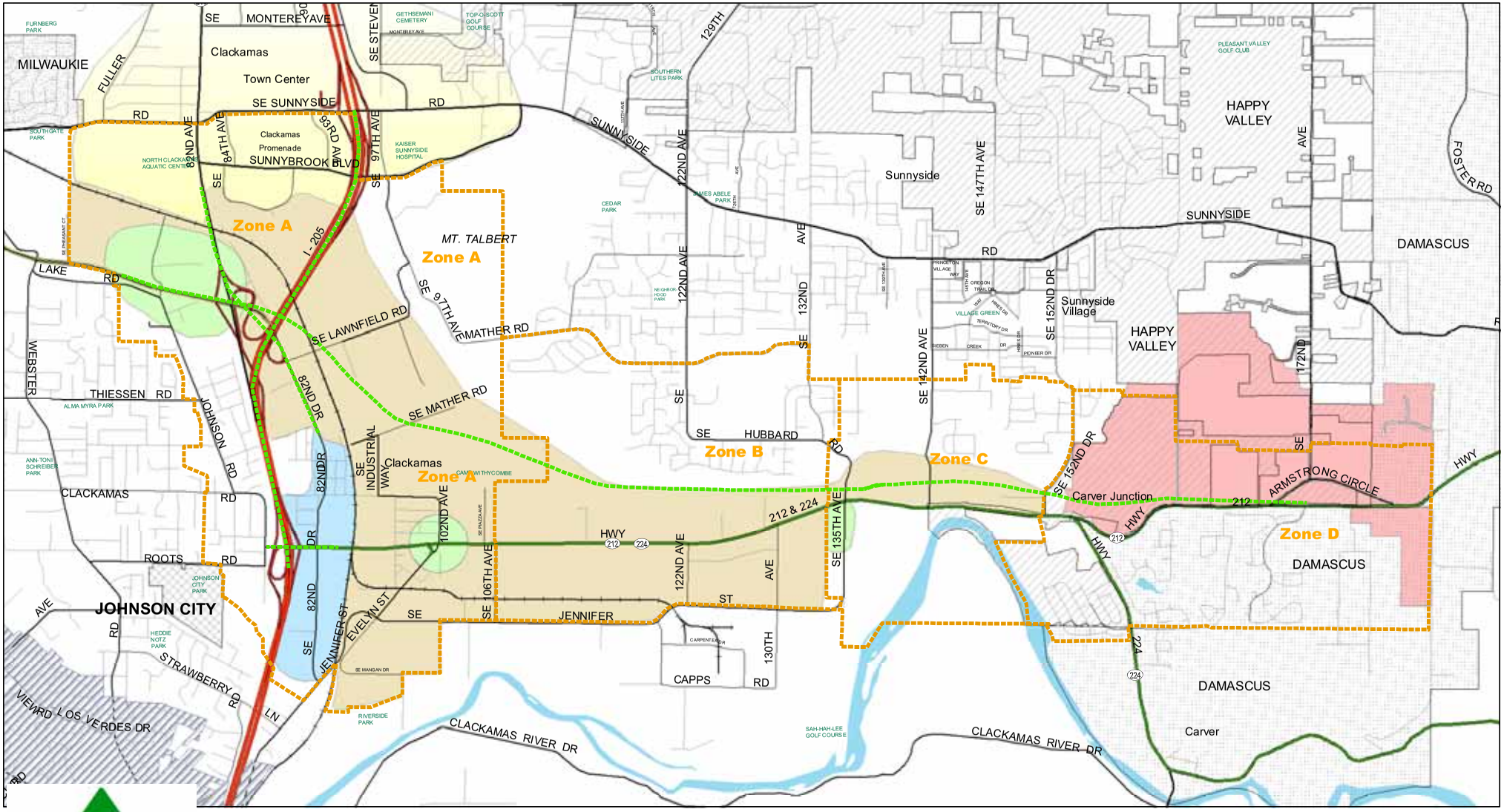

CLACKAMAS COUNTY
GEOGRAPHIC INFORMATION SYSTEMS

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Sunrise Project Alignment
Land Use Study Zones (A, B, C, D)

Clackamas Business District
Clackamas Industrial Area
Clackamas Regional Center
Hwy 212/224
Rock Creek Employment Area

Sunrise Project
I-205 to Rock Creek Junction

Business Districts Figure 17

Sunrise Project, I-205 to Rock Creek Junction

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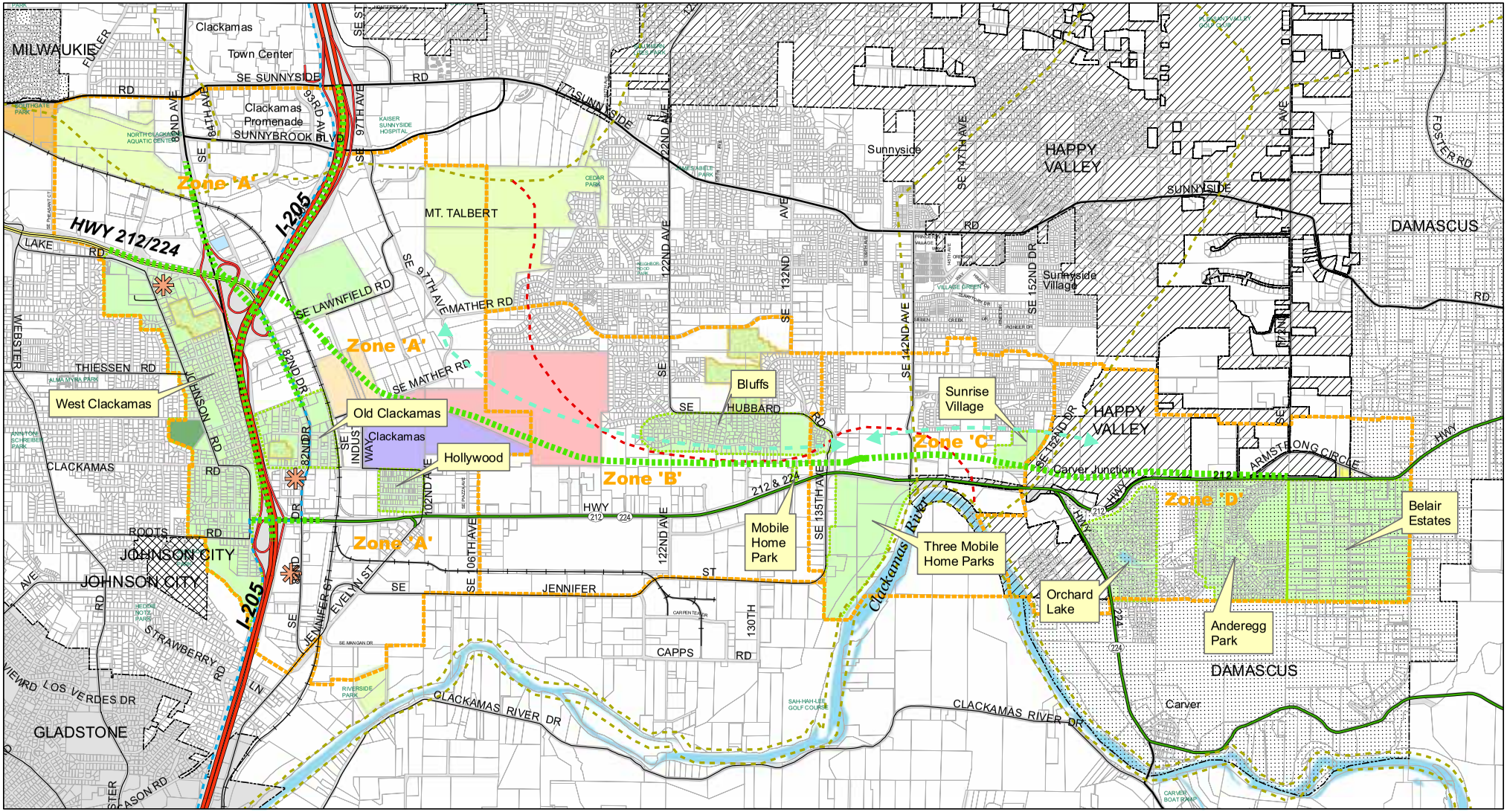

CLACKAMAS COUNTY

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Sunrise Project Alignment
Land Use Study Zones (A, B, C, D)
Neighborhood
Service Commercial Area
Existing Bike/Ped. Trails
Planned Clackamas Bluffs Trail - Metro

Unique Land Uses
Camp Withycombe - Military Dept
Camp Withycombe - ODOT
Williams Pipeline Gas Distribution Facility

KEX Radio
KZNY Radio
Super Fund Site
Clackamas_Cemetery

Proposed Trails -- NCPRD
Wildlife Corridor

Community Facilities
Existing Park
Planned Park
Existing School Recreation Site

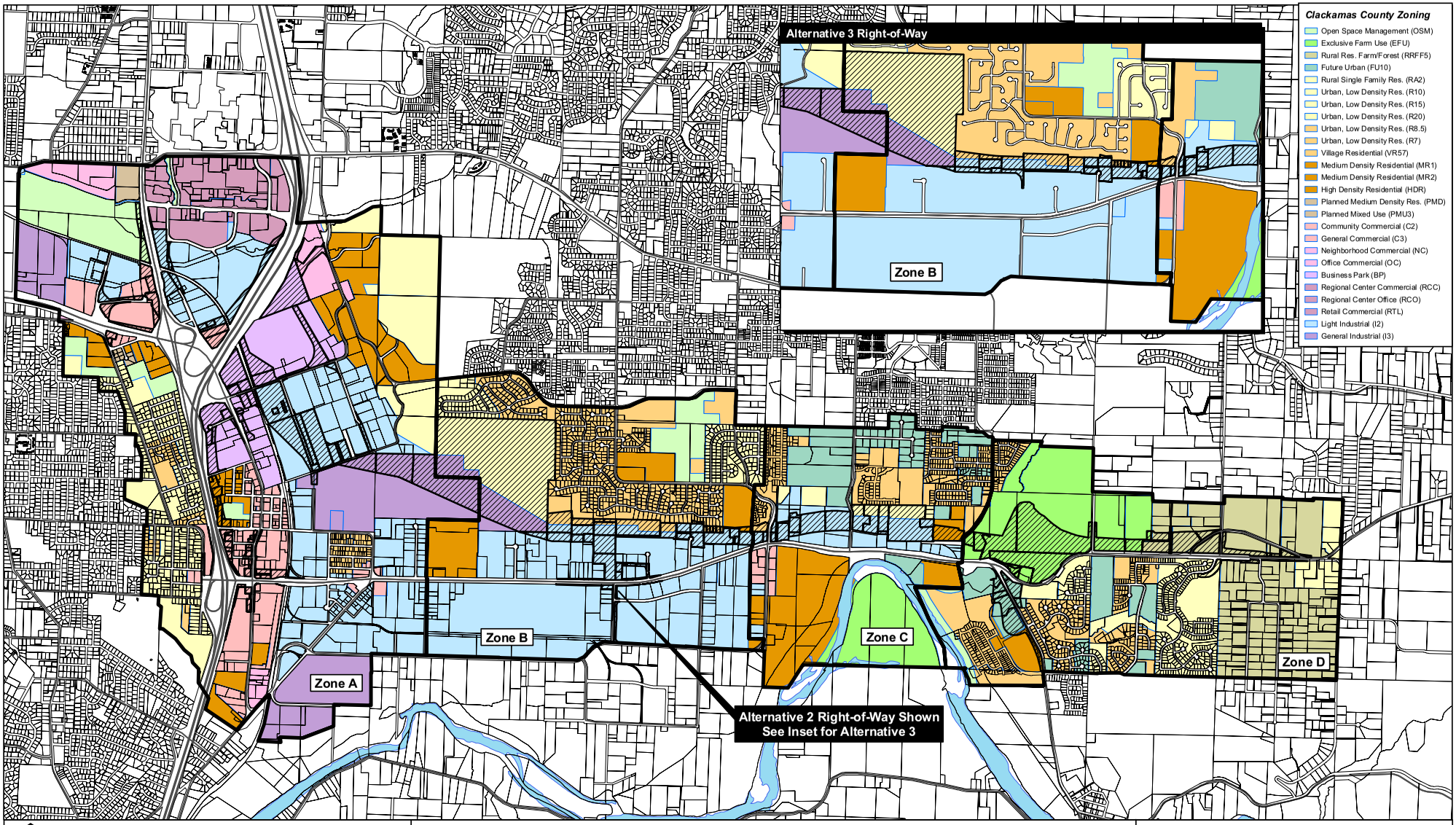
Sunrise Project
I-205 to Rock Creek Junction

Community Features

Figure 18

Sunrise Project, I-205 to Rock Creek Junction

DTD | R.GRAY | SUNRISE | Sunrise_Community_Features.mxd | May 2006



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2,400 0 2,400 Feet

Sources:
Clackamas County, ODOT and Metro, Portland OR

Legend

- Analysis Zones
- Freeway
- Major Roads
- Clackamas River
- Public Right-of-Way
- Proposed Right-of-Way

Figure 19 **DRAFT**

Alternatives 2 & 3 Right-of-Way by Zoning Designation

Sunrise Project, I-205 to Rock Creek Junction

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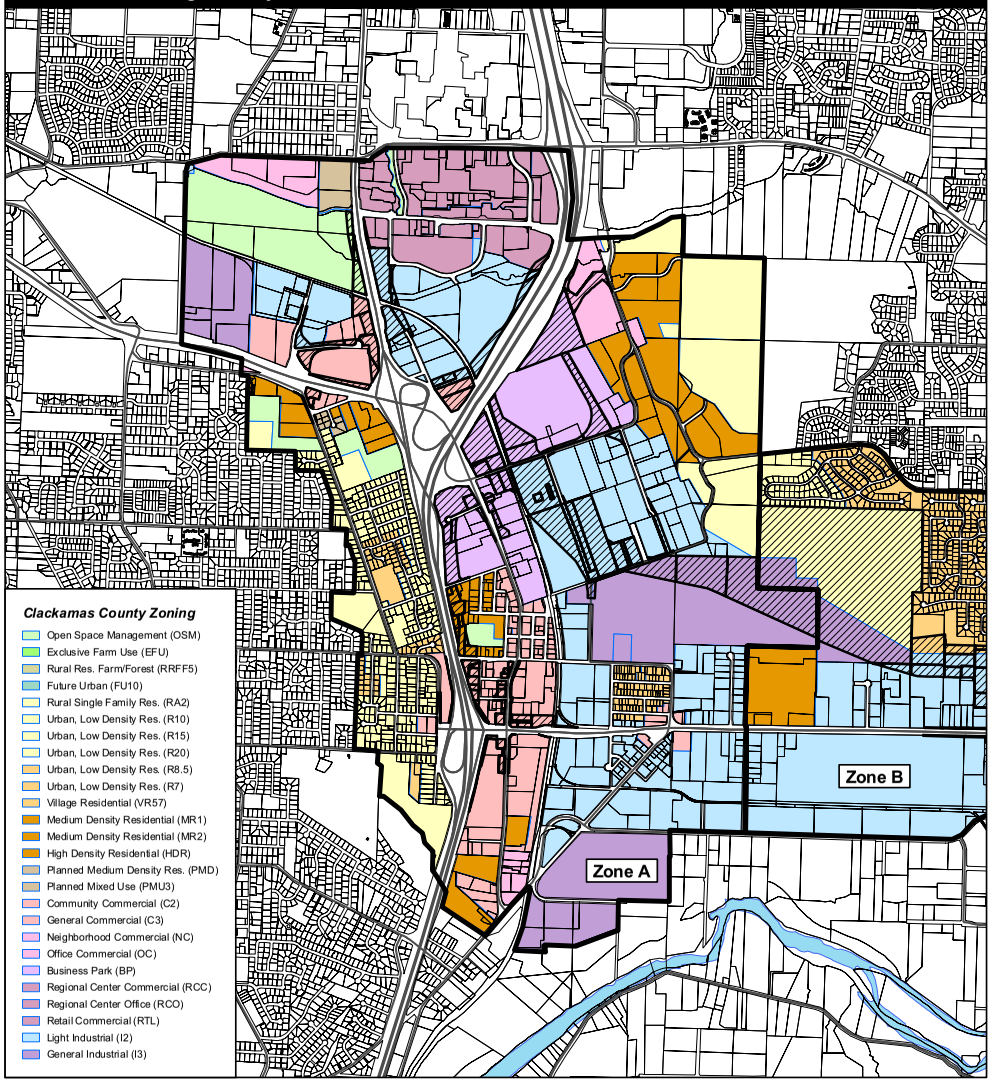
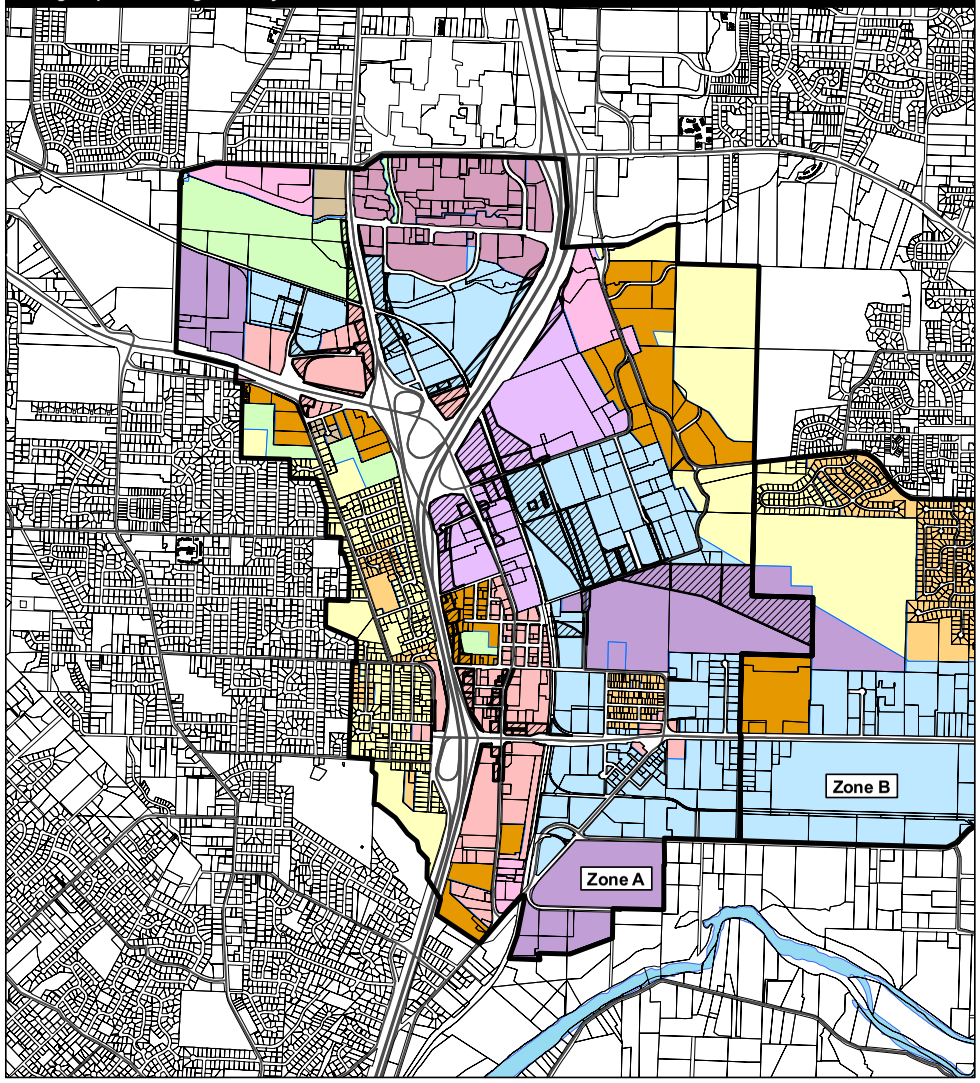
Alternatives 2 & 3 Right-of-Way



Design Option A-2 Right-of-Way



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Sources:
Clackamas County, ODOT and Metro, Portland OR

Legend

- Analysis Zones
- Freeway
- Major Roads
- Clackamas River
- Public Right-of-Way
- Proposed Right-of-Way

Figure 20 **DRAFT**

Zone A Right-of-Way by Zoning Designation

Sunrise Project, I-205 to Rock Creek Junction

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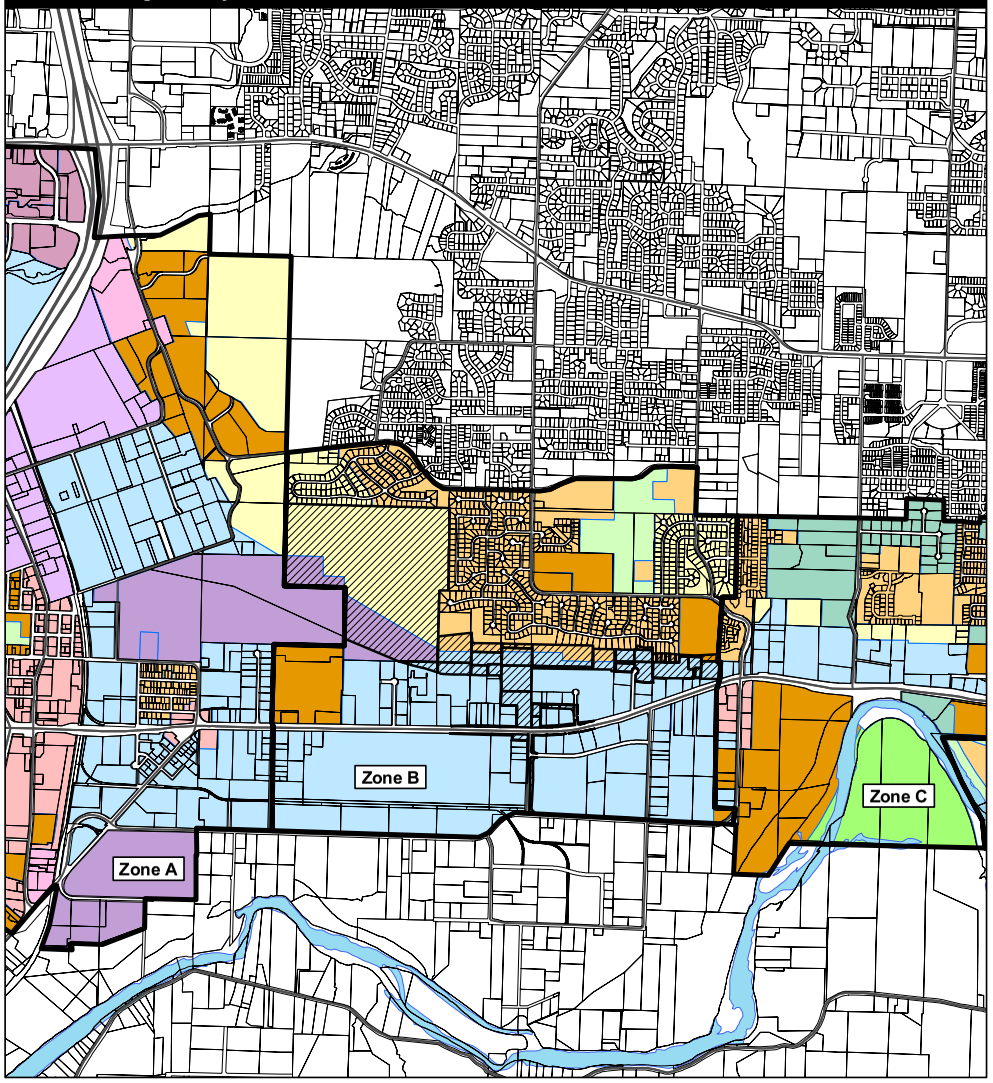
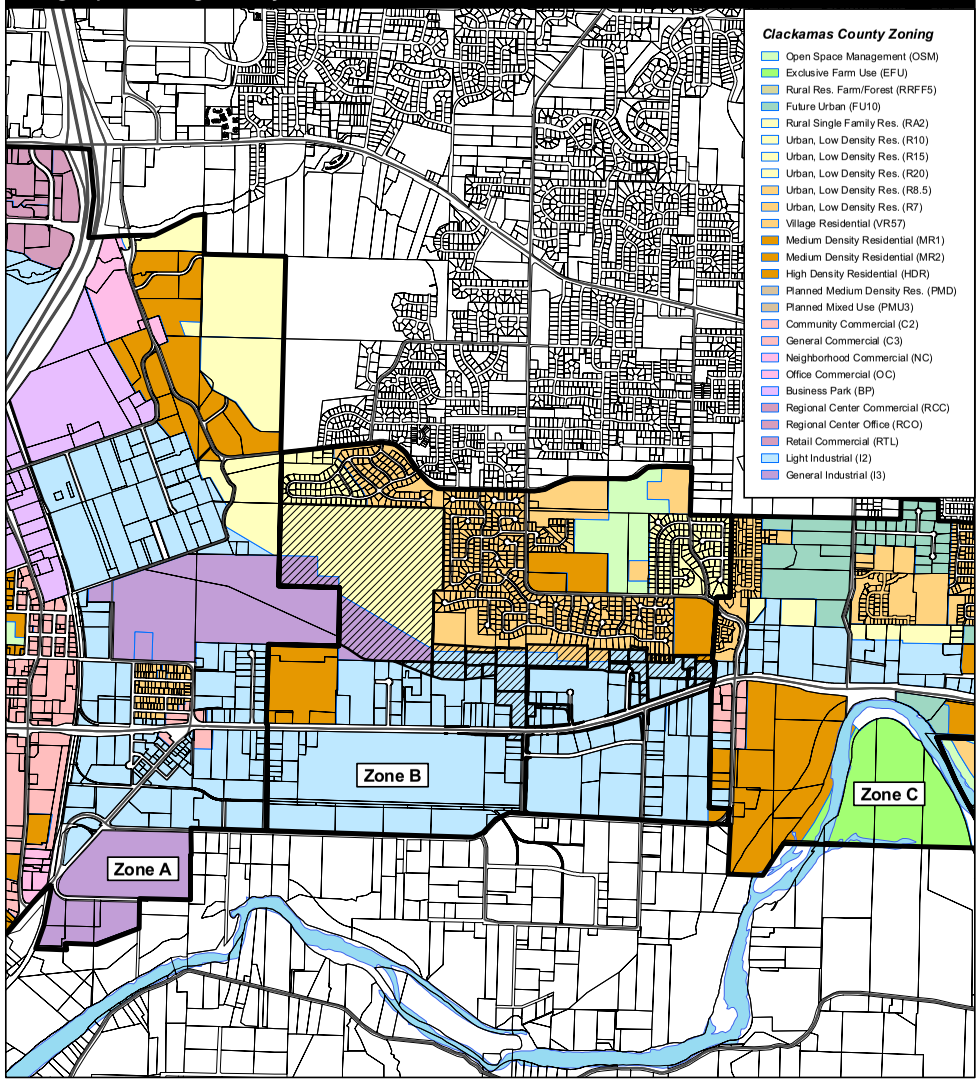
Alternative 2 Right-of-Way



Design Option B-2 Right-of-Way



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Sources:
Clackamas County, ODOT and Metro, Portland OR

Legend

- Analysis Zones
- Freeway
- Major Roads
- Clackamas River
- Public Right-of-Way
- Proposed Right-of-Way

Figure 21 **DRAFT**

Zone B Right-of-Way by Zoning Designation

Sunrise Project, I-205 to Rock Creek Junction

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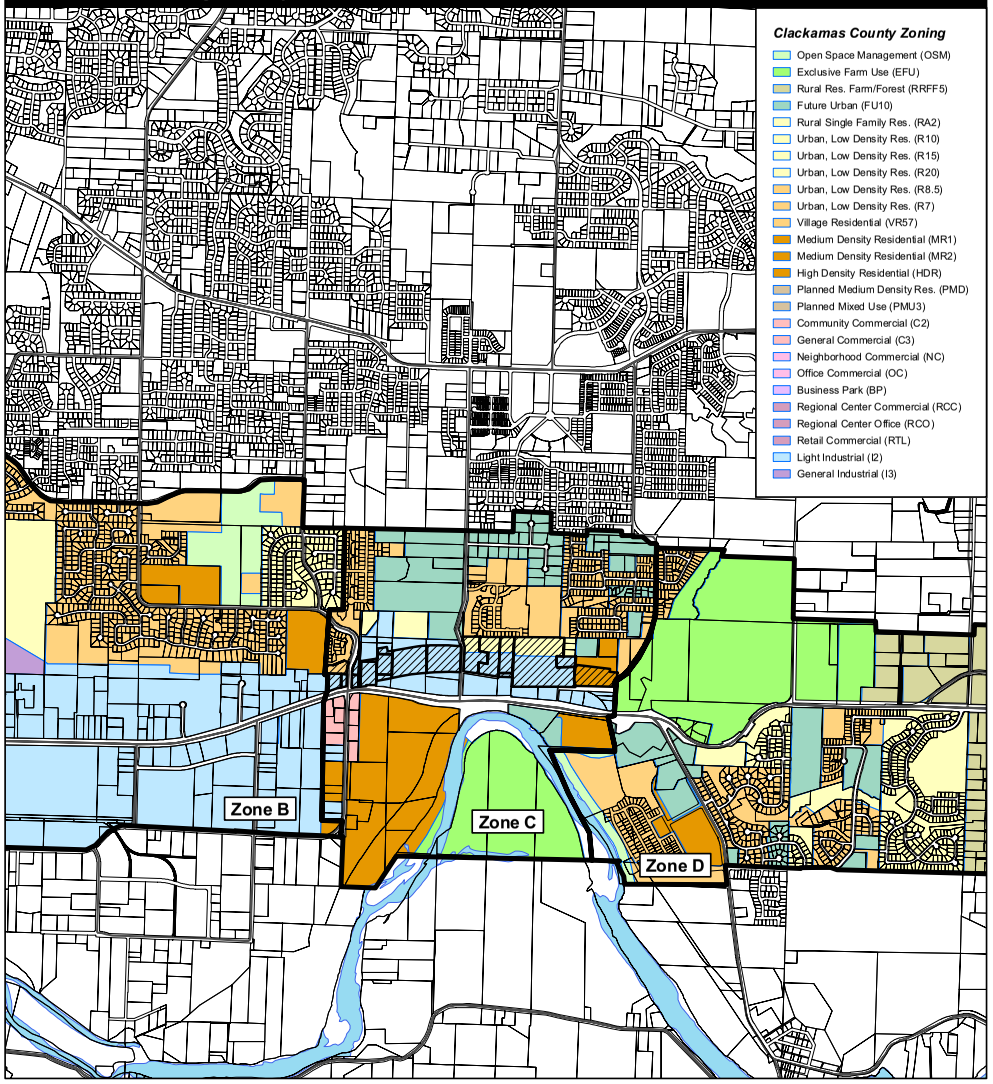
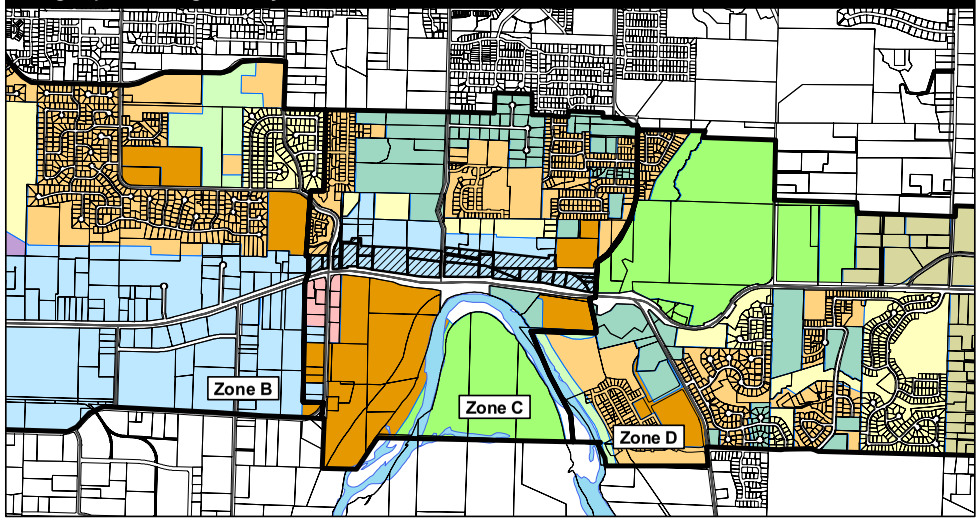
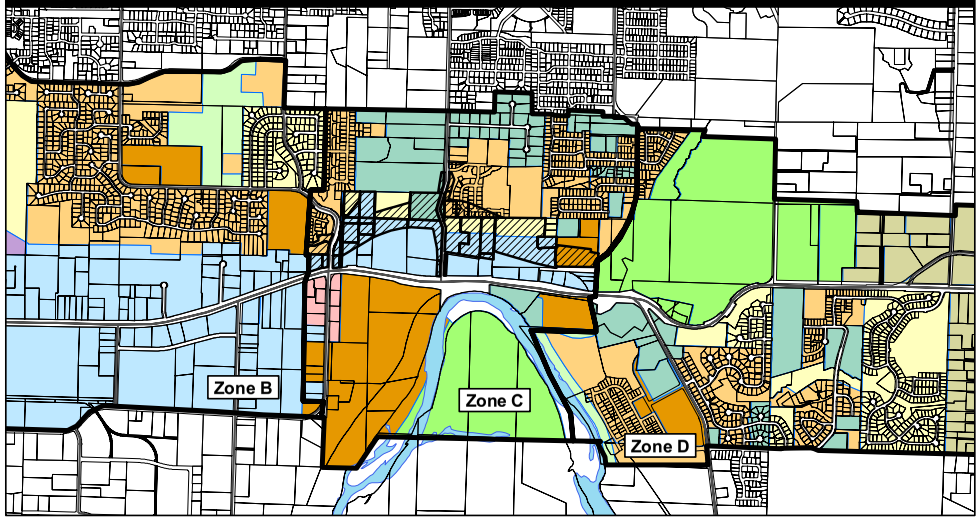
Alternatives 2 and 3 Right-of-Way



Design Option C-2 Right-of-Way



Design Option C-3 Right-of-Way



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Sources:
Clackamas County, ODOT and Metro, Portland OR

Legend

- Analysis Zones
- Freeway
- Major Roads
- Clackamas River
- Public Right-of-Way
- Proposed Right-of-Way

Figure 22 **DRAFT**

Zone C Right-of-Way by Zoning Designation

Sunrise Project, I-205 to Rock Creek Junction

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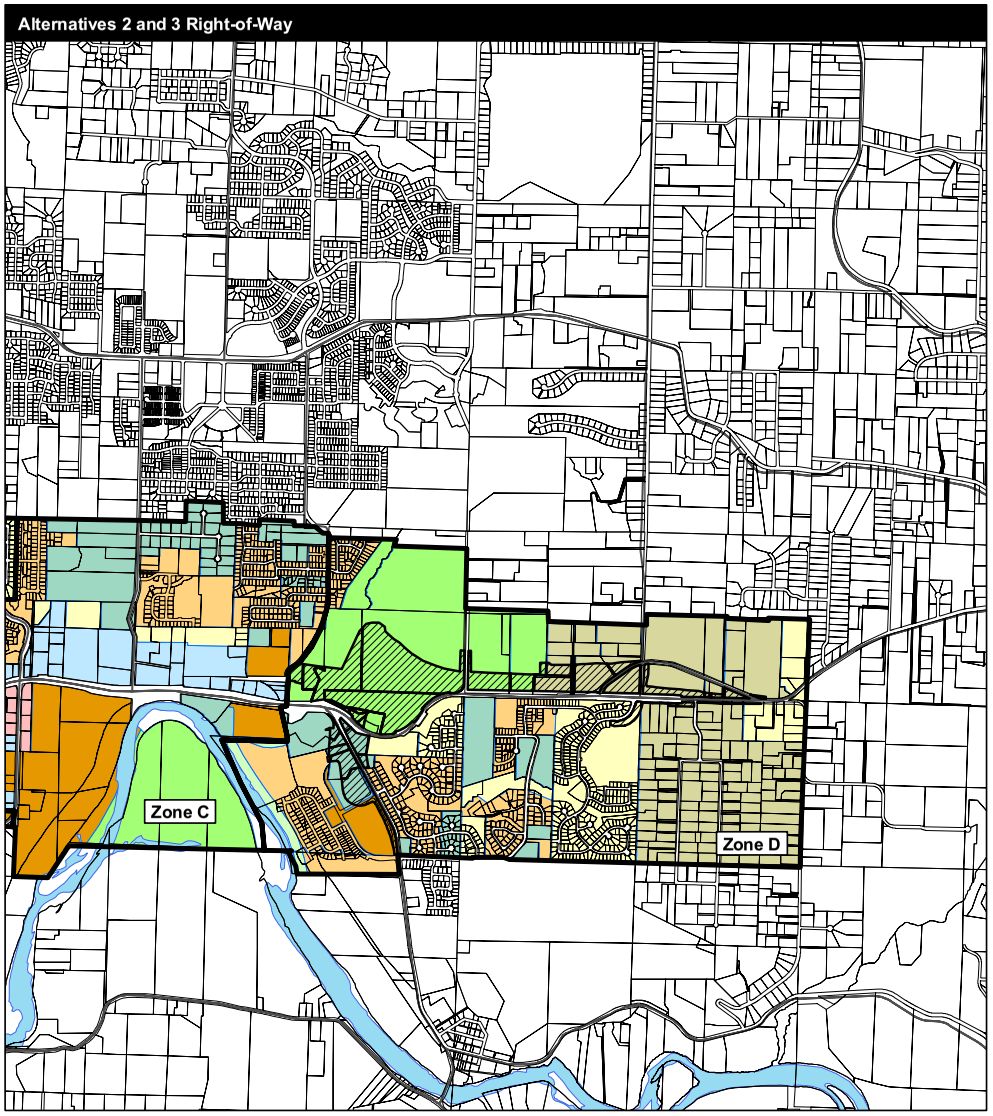

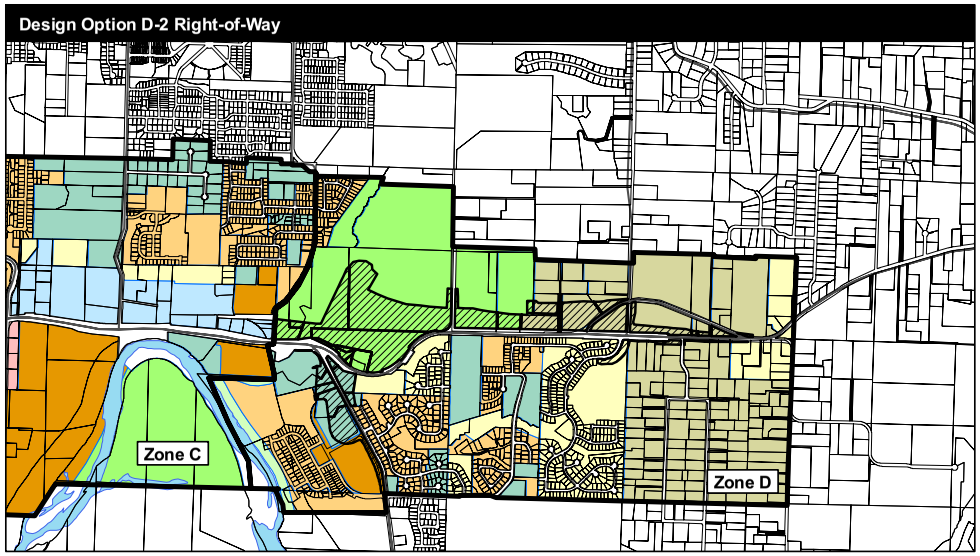

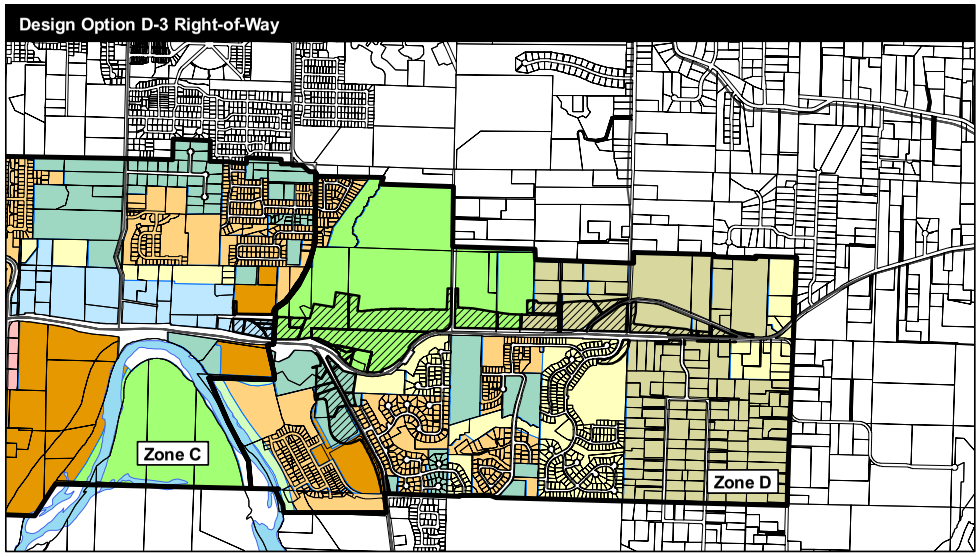

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Sources:
Clackamas County, ODOT and Metro, Portland OR

Legend

- Analysis Zones
- Freeway
- Major Roads
- Clackamas River
- Public Right-of-Way
- Proposed Right-of-Way

Figure 23 **DRAFT**

Zone D Right-of-Way by Zoning Designation

Sunrise Project, I-205 to Rock Creek Junction

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APPENDICIES: SUPPORTING DATA

APPENDIX A: Existing Conditions Data Tables

Table A-1: Inventoried Land Uses by General and Original Land Use Classes

General Land Use Classes	Original Land Use Classes	Number of Lots	ACRES
Ag Lands	Vacant - Ag	3	73.28
Church	Church	4	6.49
Church	Parking	3	1.62
Commercial	Hotel	7	15.07
Commercial	Parking	12	24.51
Commercial	Retail	89	157.08
Commercial	Services	66	63.79
Community Uses	Other Public	1	1.96
Community Uses	Public Office	4	1.10
Emergency Services	Other Public	3	4.14
Emergency Services	Public Office	1	2.84
Industrial	Construction	37	43.28
Industrial	Manufacturing	99	227.37
Industrial	Parking	7	10.66
Industrial	Storage	29	46.56
Military	Military	2	78.09
Mobile Home Park	Mobile Home Park	29	174.21
Multi Family Dwellings	Duplex	15	3.96
Multi Family Dwellings	Fourplex	8	2.61
Multi Family Dwellings	Group Home	1	0.19
Multi Family Dwellings	Multi Family Dwellings	46	111.89
Multi Family Dwellings	Triplex	5	0.92
Office	Office	31	48.39
Office	Parking	3	3.84
Office	Public Office	6	21.73
Office Warehouse	Office Warehouse	27	66.43
Office Warehouse	Parking	1	1.60
Open Space	Open Space - Private	49	58.01
Open Space	Open Space - Public	6	26.14
Park	Park - Public	4	79.69
Park	Park	4	8.92
ROW	Driveway	10	2.40
ROW	Railroad	32	13.85

ROW	Street - Private	1	0.47
ROW	Street - Private	18	4.30
ROW	Street	1	0.21
Schools	Public Office	1	1.52
Schools	School	12	110.21
Single Family Dwelling	Garage	1	0.18
Single Family Dwelling	New Subdivision	9	103.67
Single Family Dwelling	Single Family Dwelling	2,376	724.64
Utilities	Radio Transmitter	5	58.33
Utilities	Utilities	10	17.14
Vacant	Vacant - Ag	22	252.24
Vacant	Vacant - Forested	65	356.39
Vacant	Vacant	111	203.15
Warehouse	Mini Storage	6	14.27
Warehouse	Parking	1	0.54
Warehouse	Truck Terminal	11	61.65
Warehouse	Warehouse	75	375.68

Table A-2 Land Uses by Land Use Study Area Analysis Zone and for Total Land Use Study Area

	Zone A		Zone B		Zone C		Zone D		Study Area TOTAL	
Land Use Categories	**Total Acres**	**Percent Of Total Zone**	**Total Acres**	**Percent Of Total Zone**	**Total Acres**	**Percent Of Total Zone**	**Total Acres**	**Percent Of Total Zone**	**Total Acres**	**Percent Of Total**
Agricultural Uses					73.3	15%			73.3	2%
Church	4.1	0%					4.1	1%	8.1	0%
Commercial	214.1	13%	27.6	3%	8.2	2%	10.6	1%	260.5	7%
Community Uses	3.1	0%							3.1	0%
Emergency Services	2.8	0%	4.1	0%					7.0	0%
Industrial	217.0	14%	65.7	8%	22.0	5%	23.3	3%	327.9	9%
Military	78.1	5%							78.1	2%
Mobile Home Park	28.7	2%	48.1	6%	97.5	20%			174.2	5%
Multi Family Dwellings	100.6	6%	19.0	2%					119.6	3%
Office Warehouse	57.0	4%	11.0	1%					74.0	2%
Office	74.0	5%							68.0	2%
Open Space	21.7	1%	9.3	1%	21.8	4%	31.3	4%	84.2	2%
Park	78.3	5%	4.3	1%			6.0	1%	88.6	2%
ROW	7.4	0%	9.2	1%	2.4	0%	2.2	0%	21.2	1%
Schools	47.9	3%	63.5	8%	0.4	0%			111.7	3%
Single Family Dwelling	123.9	8%	160.5	19%	154.3	32%	389.8	52%	828.5	23%
Utilities	71.4	4%			2.4	0%	1.7	0%	75.5	2%
Vacant	272.7	17%	155.7	19%	95.6	20%	287.8	38%	811.8	22%
Warehouse	185.8	12%	259.2	31%	7.1	1%			452.1	12%
Total	1,588.4	100%	837.2	100%	484.9	100%	756.8	100%	3,667.2	100%

Source: Clackamas County, Land Use Inventory, May-June 2006

Table A-3 Existing Residential Units in Land Use Study Area

Number of Residential Units	Zone A	Zone B	Zone C	Zone D	Total All Zones
Single Family Units	523	761	354	762	2400
Multifamily Family Units	1542	290	0	0	1832
Mobile Home Units	216	378	519	0	1113
Total Residential Units	2281	1429	873	762	5345

Clackamas County Zoning Districts

The following Clackamas County zoning districts are found within the land use study area as shown on Figure 16:

Industrial and Office Zoning Districts:

- **General Industrial (I3**) provides for industrial uses in locations that encourage maximum utilization and efficient use of transportation facilities.
- **Light Industrial (I2)** provides for a mix of business park uses, wholesale distribution, and manufacturing uses on sites that are generally level with good truck access.
- **Business Park (BP)** allows office and manufacturing uses in a setting with high aesthetic standards.
- **Office Commercial (OC)** provides for development of office complexes.
- **Regional Center Office (RCO)** provides for high employment density office and mixed uses within a development supported by transit and excellent access in the Regional Center.

Commercial:

- **Retail Commercial (RTL)** allows a wide range of retail commercial, office and mixed uses located in transit corridors.
- **Regional Center Commercial (RCC)** provides for higher density regional and local shopping and a mix of uses to support public transportation investment in walkable districts in the Regional Center.
- **Neighborhood Commercial (NC)** provides for the convenience commercial needs of residential neighborhoods in locations easily accessible to these neighborhoods.
- **General Commercial (C-3)** provides for shopping needs for a wide range of goods and **services, including large-scale items, in areas with good auto and transit access.**
- **Community Commercial (C-2)** provides for local shopping needs of several neighborhoods in locations easily accessible to those neighborhoods.
- **Planned Mixed Use (PMU)** provides for development of a mix of uses, either within a building or on a development site. Specific requirements are identified for each PMU site, which are all located in the Regional Center.

Residential:

- **Urban Low Density Residential (R7, R8.5, R10, R15, R20)** provides for primarily single family residential houses. There are a range of lot sizes allowed within this zone; for example, R7 zoning averages 7,000 lots, and R8.5 averages 8.500 square foot lots.

- **Planned Medium Density Residential (PMD)** provides for a variety of housing types not to exceed 12 units per acre.
- **Medium Density Residential (MR1)** provides for manufactured home parks and multifamily dwellings at a maximum of 12 units per acre.
- **Medium High Density (MR2)** provides for multifamily dwellings at a maximum of 18 units per acre.
- **High Density Residential (HR1)** provides for multifamily dwellings at a maximum of 25 units per acre.
- **Village Residential (VR5/7)** is a low density residential zoning district for the Sunnyside Village, a special design plan area.

Open Space, Rural, Future Urban:

- **Open Space Management (OSM)** is to preserve and manage the county's committed open space resources such as school grounds, parks, cemeteries and golf courses.
- **Exclusive Farm Use (EFU)** allows for agricultural uses.
- **Rural Area Residential 2-Acre District (RA-2)** allows for agricultural and single family residential uses in areas outside Urban Growth Boundaries. Minimum lot size is 2 acres.
- **Rural Residential Farm/Forest 5-Acres District (RRFF5)** provides for agriculture, forestry and single family residential uses in areas outside Urban Growth Boundaries. Minimum lot size is 5 acres.
- **Future Urbanizable (FU10)** is intended to preserve for future development at urban densities the areas in the county located inside an Urban Growth Boundary for which urban services have not yet been provided.

Table A-4 Vacant Land by County Zoning Designation

Analysis Zone	Zoning Designation	Acres	% of Total Vacant Land	Total Ac Each Zoning Category	% of Total Vacant Land
Industrial and Office					
Zone A	I2	47.1	6%		
Zone B	I2	17.0	2%		
Zone C	I2	38.1	5%	102.2	13%
Zone A	I3	35.3	4%		
Zone B	I3	30.3	4%	65.6	8%
Zone A	BP	14.2	2%	14.2	2%
Zone AB	OC	11.0	1%	11.0	1%
Zone A	RCO	4.7	1%	4.7	1%
		197.8	24%	197.8	24%
Retail					
Zone B	C-2	0.2	0%		
Zone C	C-2	1.1	0%	1.3	0%
Zone A	C-3	12.1	1%	12.1	1%
Zone A	PMU3	4.0	0%	4.0	0%
Zone A	RCC	2.9	0%	2.9	0%
Zone A	RTL	0.1	0%	0.1	0%
		20.4	3%	20.4	3%
Rural and Open Space					
Zone D	EFU	168.4	21%	168.4	21%

Zone C	FU10	23.4	3%		
Zone D	FU10	30.2	4%	53.6	7%
Zone A	OSM	74.8	9%	74.8	9%
Zone D	RRFF5	77.5	10%	77.5	10%
Zone D	RA-2	8.7	1%	8.7	1%
		383.0	47%	383.0	47%
Residential					
Zone A	HDR	1.4	0%	1.4	0%
Zone A	MR1	6.4	1%		
Zone B	MR1	0.2	0%		
Zone C	MR1	2.3	0%	8.8	1%
Zone A	MR2	15.4	2%	15.4	2%
Multi-Family Sub-Total		**25.6**	**3%**	**25.6**	**3%**
Zone A	R10	5.9	1%		
Zone B	R10	1.5	0%		
Zone D	R10	0.4	0%	7.9	1%
Zone C	R15	5.6	1%		
Zone D	R15	0.1	0%	5.7	1%
Zone A	R20	31.9	4%		
Zone B	R20	90.7	11%		
Zone C	R20	7.4	1%	130.1	16%
Zone A	R7	0.2	0%		
Zone C	R7	1.3	0%		
Zone D	R7	0.1	0%	1.7	0%
Zone A	R8.5	5.4	1%		
Zone B	R8.5	15.7	2%		
Zone C	R8.5	16.4	2%		
Zone D	R8.5	2.2	0%	39.6	5%
Zone D	VR57	0.3	0%	0.3	0%
Single-Family Sub-Total		**185.1**	**23%**	**185.1**	**23%**
Total For Residential		**210.7**	**26%**	**210.7**	**26%**
TOTAL Vacant Land		**811.8**	**100%**		

Source: Clackamas County Vacant Land Inventory May 2006, Clackamas Co. GIS

Table A-5 Acres by County Zoning Designation by Analysis Zone

County Zoning Designation		Analysis Zone A			Analysis Zone B		
		Acres	% of Total Study Area	% of Total Analysis Zone	Acres	% of Total Study Area	% of Total Analysis Zone
BP	Business Park	192.9	4%	10%			
I2	Light Industrial	482.2	11%	25%	418.9	9%	46%
I3	General Industrial	231.1	5%	12%	30.3	1%	3%
OC	Office Commercial	61.4	1%	3%			
RCO	Regional Center Office	57.6	1%	3%			
Total Industrial & Office		**1,025.1**	**23%**	**53%**	**449.2**	**10%**	**49%**
C3	General Commercial	197.9	4%	10%			
C-2	Community Commercial				0.3	0%	0%
NC	Neighborhood Commercial	2.3	0%	0%			
PMU3	Planned Mixed Use 3	10.8	0%	1%			
RCC	Regional Center Commercial	66.2	1%	3%			
RTL	Retail Commercial	15.2	0%	1%			
Total Retail		**292.5**	**7%**	**15%**	**0.3**	**0%**	**0%**
HDR	High Density Residential	55.4	1%	3%			
MR2	Medium High Density Residential	71.3	2%	4%	19.5	0%	2%
PMD	Planned Med Density Residential	3.3	0%	0%			
MR1	Medium Density Residential	37.2	1%	2%	50.4	1%	6%
Sub-total Multi-family		**167.3**	**4%**	**9%**	**70.0**	**2%**	**4%**
R20	Urban Low Density Res (20,000)	85.1	2%	4%	90.8	2%	10%
R15	Urban Low Density Res (15,000)	35.1	1%	2%			
R10	Urban Low Density Res (10,000)	182.9	4%	9%	57.0	1%	6%
R8.5	Urban Low Density Res (8,500)	22.9	1%	1%	211.5	5%	23%
R7	Urban Low Density Res (7,000)	18.1	0%	1%			
VR57	Village Standard Lot Residential						
Sub-total Single-family		**344.0**	**8%**	**18%**	**359.3**	**8%**	**39%**

Total Residential		**511.3**	**11%**	**26%**	**429.2**	**10%**	**47%**
OSM	Open Space Management	104.5	2%	5%	36.2	1%	4%
EFU	Exclusive Farm Use						
FU10	Future Urbanizable (10 ac)						
RRFF5	Rural Residential Farm Forest						
RA2	Rural Single Family Residential						
Sub-total Open Space, Rural, FU		**104.5**	**2%**	**5%**	**36.2**	**1%**	**4%**
TOTAL all Land Uses		**1,933.4**	**43%**	**100%**	**915.0**	**21%**	**100%**

Table A-5 Acres by County Zoning Designation by Analysis Zone - Continued

		Analysis Zone C			Analysis Zone D			TOTAL
County Zoning Designation		**Acres**	**% of Total Study Area**	**% of Total Analysis Zone**	**Acres**	**% of Total Study Area**	**% of Total Analysis Zone**	**Land Use Study Area**
BP	Business Park							192.9
I2	Light Industrial	83.4	2%	11%	0.2	0%	0%	984.8
I3	General Industrial							261.4
OC	Office Commercial							61.4
RCO	Regional Center Office							57.6
Total Industrial & Office		**83.4**	**2%**	**11%**	**0.2**	**0%**	**0%**	**1,558.0**
C3	General Commercial							197.9
C2	Community Commercial	12.5	0%	2%				12.8
NC	Neighborhood Commercial							2.3
PMU3	Planned Mixed Use 3							10.8
RCC	Regional Center Commercial							66.2
RTL	Retail Commercial							15.2
Total Retail		**12.5**	**0%**	**1%**	**-**	**0%**	**0%**	**305.3**
HDR	High Density Residential							55.4
MR2	Med High Density Residential							90.9
PMD	Planned Med Density Residential							3.3
MR1	Medium Density Residential	136.7	3%	18%				224.3
Sub-total Multi-family		**136.7**	**3%**	**7%**	**-**	**0%**	**0%**	**373.9**
R20	Urban Low Density Res (20,000)	11.8	0%	2%				187.7
R15	Urban Low Density Res (15,000)	7.6	0%	1%	17.6	0%	2%	60.3

R10	Urban Low Density Res (10,000)				96.4	2%	11%	336.3
R8.5	Urban Low Density Res (8,500)	65.5	1%	9%	65.3	1%	8%	365.2
R7	Urban Low Density Res (7,000)	21.8	0%	3%	15.8	0%	2%	55.6
VR57	Village Standard Lot Residential	23.9	1%	3%	11.9	0%	1%	35.8
Sub-total Single-family		**130.5**	**3%**	**17%**	**207.1**	**5%**	**25%**	**1,040.9**
Total Residential		**267.2**	**6%**	**35%**	**207.1**	**5%**	**25%**	**1,414.8**
OSM	Open Space Management							140.8
EFU	Exclusive Farm Use	90.4	2%	12%	183.5	4%	22%	273.9
FU10	Future Urbanizable (10 ac)	110.6	2%	14%	164.2	4%	20%	274.8
RRFF5	Rural Residential Farm Forest				256.2	6%	31%	256.2
RA2	Rural Single Family Residential	201.0	5%	26%	28.3	1%	3%	229.4
Sub-total Open Space, Rural, FU		**402.1**	**9%**	**53%**	**632.3**	**14%**	**75%**	**1,175.1**
TOTAL all Land Uses		**765.2**	**17%**	**100%**	**839.6**	**19%**	**100%**	**4,453.21**

APPENDIX B: ALTERNATIVE 2 IMPACT DATA TABLES

ZONE A – Detailed Tables

Table B-1 Alternative 2 Zone A, Total Impacts:

Zone A, Alternative 2	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	182.1	150	46	27
Zone A Total	1588.4	1121	N.A.	2281
% Of Total	11.5%	13.4%	N.A.	1.2%

Table B-2 Alternative 2 Zone A - Residential Land Impacted By New ROW

Zone A, Alternative 2	Land Use Category			
	Single Family	Multi Family	Mobile Home Park	All Residential Land
Number Of Lots In Zone	516	72	5	593
Number Of Lots Impacted	9	6	0	15
Percentage Of Lots Impacted	1.7%	8.3%	0.0%	2.5%
Number Of Acres In Zone	123.9	100.6	28.7	253.1
Acres Required For ROW	1.9	1.9	0.00	3.8
Percentage Of Land Area Required For ROW	1.5%	6.7%	0.0%	1.5%

Table B-3 Alternative 2 Zone A - Residential Units To Be Removed For New ROW

Zone A, Alternative 2	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	515	1542	216	8	2281
Number Of Units Required For ROW	3	24	0	0	27
Percentage Of Units Required For ROW	0.6%	1.6%	-	-	1.2%

Table B-4 Alternative 2 Zone A - Employment Land Impacted By New ROW

	Land Use Category					
	Commercial	**Industrial**	**Office**	**Office Warehouse**	**Warehouse**	**Total**
Number Of Lots In Zone	141	117	40	20	54	372
Number Of Lots Impacted	44	23	12	4	12	95
Percentage Of Lots Impacted	31.2%	19.7%	30.0%	20.0%	22.2%	25.5%
Number Of Acres In Zone	214.1	217.0	74.0	57.0	185.8	747.8
Acres Required For ROW	17.3	29.0	16.5	4.1	6.3	73.1
Percentage Of Land Area Required For ROW	8.1%	13.3%	22.3%	7.2%	3.4%	9.8%
Employment Buildings To Be Removed For ROW	16	6	9	4	3	38

Table B-5 Alternative 2 Zone A - Land In Other Uses Impacted By New ROW

Zone A, Alternative 2	Land Use Category									
	Church	Community Uses	Emergency Services	Military	Open Space	Park	Row	School	Utilities	Total Other Uses
Number Of Lots In Zone	6	5	1	2	8	3	25	7	12	69
Number Of Lots Impacted		2		1	6		2	1	4	16
Percentage Of Lots Impacted		40.0%		50.0%	75.0 %		8.0%	14.3%	33.3%	23.2%
Number Of Acres In Zone	4.1	3.1	2.8	78.1	21.7	78.3	7.4	47.9	71.4	314.8
Acres Required For ROW		0.4		0.8	9.9		0.5	0.2	14.1	25.7
Percentage Of Land Area Required For ROW		11.8%		1.0%	45.7 %		6.6%	0.4%	19.7%	8.2%
Other Buildings To Be Removed For ROW		1								

Table B-6 Alternative 2 Zone A - ROW Impacts To Vacant Land

Zone A, Alternative 2	Land Use Category
	Vacant
Number Of Lots In Zone	87
Number Of Lots Impacted	24
Percentage Of Lots Impacted	27.7%
Number Of Acres In Zone	272.7
Acres Required For ROW	79.6
Percentage Of Land Area Required For ROW	29.2%
Buildings On Vacant Land To Be Removed For ROW	0

Table B-7 Alternative 2 Zone A - ROW Impacts To County Zoning Designations

Current Zone Designation	Total Acres	Acres Impacted By ROW	Percentage Of Total Acres
BP	192.9	50.6	26.2%
C3	200.2	25.1	12.5%
HDR	55.4	5.0	9.0%
I2	480.3	57.1	11.9%
I3	231.7	35.9	15.5%
MR1	37.5	0.2	0.4%
OC	62.2	3.5	5.7%
OSM	105.0	3.7	3.5%
PMD	3.3	0.0	0.5%
R10	182.1	0.1	0.0%
R20	85.7	0.0	0.0%
RCC	66.5	0.2	0.3%
RCO	56.5	0.8	1.3%
	1759.1	182.1	

ALTERNATIVE 2 ZONE B- Detailed Tables

Table B-8 Alternative 2 Zone B - Total Impacts

Zone B, Alternative 2	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	178.0	73	16	4
Zone B Total	837.2	931	NA	1429
% Of Total	21.3%	7.8%	NA	0.3%

Table B-9 Alternative 2 Zone B - Residential Land Impacted By New ROW

Zone B, Alternative 2	Land Use Category			
	Single Family	Multi Family	Mobile Home Park	All Residential Land
Number Of Lots In Zone	760	3	8	771
Number Of Lots Impacted	7	1	2	10
Percentage Of Lots Impacted	0.9%	33.3%	25.0%	1.3%
Number Of Acres In Zone	160.5	19.0	48.1	227.6
Acres Required For ROW	2.4	0.9	0.3	3.6
Percentage Of Land Area Required For ROW	1.5%	4.5%	0.7%	1.6%

Table B-10 Alternative 2 Zone B - Residential Units To Be Removed For New ROW

Zone B, Alternative 2	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	760	290	378	1	1429
Number Of Units Required For ROW	1		3		4
Percentage Of Units Required For ROW	0.1%		0.3%		0.1%

Table B-11 Alternative 2 Zone B - Employment Land Impacted by New ROW

Zone B, Alternative 2	Land Use Category					
	Commercial	Industrial	Office	Office Warehouse	Warehouse	Total
Number Of Lots In Zone	21	37	0	8	33	99
Number Of Lots Impacted	14	23	-	1	14	52
Percentage Of Lots Impacted	66.7%	62.2%	-	12.5%	42.4%	12.6%
Number Of Acres In Zone	27.6	65.7	0.00	11.0	259.2	363.5
Acres Required For Row	2.4	27.4	-	0.1	15.8	45.7
Percentage Of Land Area Required For Row	8.7%	41.7%	-	0.9%	6.1%	12.6%
Employment Buildings To Be Removed For Row	4	6	-	0	2	12

Table B-12 Alternative 2 Zone B - Land In Other Uses Impacted By New ROW

Zone B, Alternative 2	Land Use Category					
	Emergency Services	Open Space	Park	ROW	Schools	Total Other Uses
Number Of Lots In Zone	3	13	2	17	5	40
Number Of Lots Impacted	0	0	0	0	0	0

Table B-13 Alternative 2 Zone B - ROW Impacts To Vacant Land

Zone B, Alternative 2	Land Use Category Vacant
Number Of Lots In Zone	21
Number Of Lots Impacted	11
Percentage Of Lots Impacted	52.4%
Number Of Acres In Zone	155.7
Acres Required For Row	128.8
Percentage Of Land Area Required For Row	82.7%
Buildings On Vacant Land To Be Removed For Row	0

Table B-14 Alternative 2 Zone B - ROW Impacts To County Zoning Designations

Current Zone Designation	Acres	Acres Impacted By Row	Percentage Of Total Acres
I2	418.9	45.4	10.8%
I3	30.3	26.9	88.8%
MR2	19.5	0.8	4.3%
R8.5	210.7	14.0	6.6%
R20	90.7	90.7	100.0%
Zone B Totals	**770.12**	**177.89**	

ALTERNATIVE 2 ZONE C - Detailed Tables

Table B-15 Alternative 2 Zone C - Total Impacts:

Zone C, Alternative 2	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	53.4	25	45	33
Zone C Totals	484.9	464	NA	873
% Of Total	11.0%	5.4%	NA	3.8%

Table B-16 Alternative 2 Zone C - Residential Land Impacted By New ROW

Zone C, Alternative 2	Land Use Category			
	Single Family	Multi Family	Mobile Home Park	All Residential Land
Number Of Lots In Zone	354	0	16	370
Number Of Lots Impacted	4	-	1	5
Percentage Of Lots Impacted	1.1%	-	6.3%	1.4%
Number Of Acres In Zone	154.3	0.0	97.5	251.8
Acres Required For ROW	6.4	-	4.6	11.0
Percentage Of Land Area Required For ROW	4.2%	-	4.7%	4.4%

Table B-17 Alternative 2 Zone C - Number Of Residential Units To Be Removed For New ROW

Zone C, Alternative 2	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	353	0	519	1	873
Number Of Units Required For ROW	3	-	30	-	33
Percentage Of Units Required For ROW	0.8%		5.8%		3.8%

Table B-18 Alternative 2 Zone C - Employment Land Impacted By New ROW

Zone C, Alternative 2	Land Use Category			
	Commercial	Industrial	Warehouse	Total
Number Of Lots In Zone	10	16	6	32
Number Of Lots Impacted	5	7	1	13
Percentage Of Lots Impacted	50.0%	44.6%	16.7%	41.1%
Number Of Acres In Zone	8.2	22.0	7.1	37.3
Acres Required For ROW	2.7	6.6	-	9.3
Percentage Of Land Area Required For ROW	33.3%	30.1%		25.0%
Employment Buildings To Be Removed For ROW	5	6		11

Table B-19 Alternative 2 Zone C - Land In Other Uses Impacted By New ROW

Zone C, Alternative 2	Land Use Category					
	Agricultural Land	Open Space	ROW	Schools	Utilities	Total Other Uses
Number Of Lots In Zone	3	17	8	1	1	30
Number Of Lots Impacted	0	1	0	0	0	1
Percentage Of Lots Impacted		5.9%				3.3%
Number Of Acres In Zone	73.3	21.8	2.4	0.4	2.4	100.25
Acres Required For ROW	0.0	-	0.0	0.0	0.0	
Percentage Of Land Area Required For ROW		0.0%				0.0%
Buildings On Other Land Use Categories To Be Removed For ROW	0	0	0	0	0	0

Table B-20 Alternative 2 Zone C - Impacts To Vacant Land

Zone C, Alternative 2	Land Use Category
	Vacant
Number Of Lots In Zone	32
Number Of Lots Impacted	6
Percentage Of Lots Impacted	18.8%
Number Of Acres In Zone	95.6
Acres Required For ROW	33.1
Percentage Of Land Area Required For ROW	34.6%
Buildings On Vacant Land To Be Removed For ROW	0

Table B-21 Alternative 2 Zone C - ROW Impacts To County Zoning Designations

Current Zone Designation	Acres	Acres Impact By Row	Percentage Of Total Acres
I2	86.0	37.3	43.3%
MR1	134.2	4.6	3.4%
R8.5	67.0	1.4	2.1%
R20	11.8	10.2	86.7%
Zone C Totals	299.0	53.4	17.8%

ALTERNATIVE 2 ZONE D - Detailed Tables

Table B-22 Alternative 2 Zone D - Total Impacts:

Zone D, Alternative 2	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	100.1	48	8	7
Zone D Totals	756.8	853	NA	762
% Of Total	13.2%	5.6%	NA	0.9%

Table B-23 Alternative 2 Zone D - Residential Land Impacted By New ROW

Zone D, Alternative 2	Land Use Category			
	Single Family	Multi Family	Mobile Home Park	All Residential Land
Number Of Lots In Zone	756	0	0	756
Number Of Lots Impacted	23	-	-	23
Percentage Of Lots Impacted	3.0%	-	-	3.0%
Number Of Acres In Zone	389.8	0.0	0.0	389.8
Acres Required For Row	20.9	-	-	20.9
Percentage Of Land Area Required For Row	5.4%	-	-	5.4%
Buildings To Be Removed For ROW	5	-	-	5

Table B-24 Alternative 2 Zone D - Residential Units To Be Removed For New ROW

Zone D, Alternative 2	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	752	0	0	10	762
Number Of Units Required For Row	5	0	0	2	7
Percentage Of Units Required For Row	0.7%			20.0%	0.9%

Table B-25 Alternative 2 Zone D - Employment Land Impacted By New Row

Zone D, Alternative 2	Existing Employment Land Use Category		
	Commercial	Industrial	Total
Number Of Lots In Zone	2	2	4
Number Of Lots Impacted	2	2	4
Percentage Of Lots Impacted	100.0%	100.0%	100.0%
Number Of Acres In Zone	10.6	23.3	33.9
Acres Required For ROW	2.0	2.3	4.4
Percentage Of Land Area Required For ROW	19.2%	10.0%	12.9%
Employment Buildings To Be Removed For ROW	0	1	1

Table B-26 Alternative 2 Zone D - Land In Other Uses Impacted By New ROW

Zone D, Alternative 2	Existing Other Land Use Category					
	Church	Open Space	Park	ROW	Utilities	Total Other Uses
Number Of Lots In Zone	1	17	3	12	2	35
Number Of Lots Impacted	0	0	0	1	2	3
Percentage Of Lots Impacted	0.0%	0.0%	0.0%	8.3%	100%	8.6%
Number Of Acres In Zone	4.1	31.3	6.0	2.2	1.7	45.3
Acres Required For ROW	0.0	0.0	0.0	0.2	0.5	0.7
Percentage Of Land Area Required For ROW	0.0%	0.0%	0.0%	9.3%	27.2%	1.4%
Buildings On Other Land Use Categories To Be Removed For ROW	0	0	0	0	0	0

Table B-27 Alternative 2 Zone D - ROW Impacts To Vacant Land

Zone D Alternative 2	Existing Land Use Category
	Vacant
Number Of Lots In Zone	58
Number Of Lots Impacted	18
Percentage Of Lots Impacted	31.0%
Number Of Acres In Zone	287.8
Acres Required For ROW	74.2
Percentage Of Land Area Required For ROW	25.8%
Buildings On Vacant Land To Be Removed For ROW	2

Table B-28 Alternative 2 Zone D - ROW Impacts To County Zoning Designations

Current Zone Designation	Acres	Acres Impact By Row	Percentage Of Total Acres
EFU	185.0	62.9	34.0%
FU10	74.9	12.8	17.0%
MR1	15.2	2.0	13.2%
R7	64.9	0.1	0.1%
R10	102.5	1.4	1.4%
RA2	26.6	0.0	0.1%
RRFF5	259.7	20.9	8.0%
Zone D Totals	**728.8**	**100.1**	**13.7%**

APPENDIX C: ALTERNATIVE 3 IMPACT DATA TABLES

ALTERNATIVE 3 ZONE B - Detailed Tables

Table C-1 Alternative 3 Zone B - Total Impacts:

Zone B, Alternative 3	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	159.4	36	11	4
Zone B Totals	837.2	931	NA	1429
% Of Total	19.0%	3.9%	NA	0.3%

Table C-2 Alternative 3 Zone B - Residential Land Impacted By New ROW

Zone B, Alternative 3	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	760	3	8	771
Number Of Lots Impacted	7	1	2	10
Percentage Of Lots Impacted	0.9%	33.3%	25.0%	1.3%
Number Of Acres In Zone	160.5	19.0	48.1	227.6
Acres Required For ROW	2.4	0.9	0.3	3.6
Percentage Of Land Area Required For ROW	1.5%	4.5%	0.7%	1.6%
Buildings To Be Removed For ROW	1	0	3	4

Table C-3 Alternative 3 Zone B - Residential Units To Be Removed For New Row

Zone B Alternative 3	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	760	290	378	1	1429
Number Of Units To Be Removed For ROW	1	0	3	0	4
Percentage Of Units To Be Removed For ROW	0.1%	-	0.8%	-	0.3%

Table C-4 Alternative 3 Zone B - Employment land impacted by new ROW

Zone B, Alternative 3	Existing Employment Land Use Category				
	Commercial	Industrial	Office Warehouse	Warehouse	Total
Number Of Lots In Zone	21	37	8	33	99
Number Of Lots Impacted	1	12	1	4	18
Percentage Of Lots Impacted	4.8%	32.4%	12.5%	12.1%	18.2%
Number Of Acres In Zone	27.6	65.7	11.0	259.2	363.5
Acres Required For ROW	0.0	17.3	0.0	12.8	30.1
Percentage Of Land Area Required For ROW	0.0%	26.3%	0.0%	4.9%	8.3%
Employment Buildings To Be Removed For ROW	0	5	0	2	7

Table C-5 Alternative 3 Zone B - Land In Other Uses Impacted By New ROW

Zone B, Alternative 3	Existing Other Land Use Category					
	Emergency Services	Open Space	Park	Row	Schools	Total Other Uses
Number Of Lots In Zone	3	13	2	17	5	40
Number Of Lots Impacted	0	0	0	0	0	0
Percentage Of Lots Impacted	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Number Of Acres In Zone	4.1	9.3	4.3	9.2	63.5	90.4
Acres Required For ROW	0.0	0.0	0.0	0.0	0.0	0.0
Percentage Of Land Area Required For ROW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Buildings On Other Land Use Categories To Be Removed For ROW	0	0	0	0	0	0

Table C-6 Alternative 3 Zone B - ROW Impacts To Vacant Land

Zone B, Alternative 3	Existing Land Use Category
	Vacant
Number Of Lots In Zone	21
Number Of Lots Impacted	8
Percentage Of Lots Impacted	38.1%
Number Of Acres In Zone	155.7
Acres Required For ROW	125.8
Percentage Of Land Area Required For ROW	80.8%
Buildings On Vacant Land To Be Removed For ROW	0

Table C-7 Alternative 3 Zone B - ROW Impacts To County Zoning Designations

Current Zone Designation	Acres	Acres Impacted by ROW	Percentage of Total Acres
I2	418.9	29.9	7.1%
I3	30.3	26.9	88.8%
MR2	19.5	0.8	4.3%
R8.5	210.7	11.1	5.2%
R20	90.7	90.7	100.0%
Zone B Totals	**770.1**	**159.4**	20.6%

APPENDIX D: DESIGN OPTION A-2,

ALTERNATIVE 2 IMPACT DATA TABLES

Table D-1 Summary of Impacts Design Option A-2 Alternative 2

	Option A-2 - With Alt 2		
Effects Of Alternatives & design options	**Zone A**	**Zones B C And D Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	1121	2248	3369
Total Number Of Lots Impacted By ROW	151	146	297
Total Number Of Acres In Analysis Zone	1588.4	2078.9	3667.3
Total Acres Removed For ROW	164.1	331.5	495.6
Total Number Of Residential Units In Analysis Zone	2281	3064	5345
Total Number Of Residential Units To Be Removed For ROW	27	45	72
Total Number Of Single Family Units In Analysis Zone	523	1877	2400
Number Of Single Family Units To Be Removed For ROW	3	11	14
Total Number Of Multifamily Units In Analysis Zone	1542	290	1832
Number Of Multifamily Family Units To Be Removed For ROW	24	0	24
Total Number Of Mobile Home Units In Analysis Zone	216	897	1113
Number Of Mobile Home Units To Be Removed For ROW	0	34	34
Total Number Of Residential Acres In Analysis Zone	253.1	869.1	1122.3
Number Of Acres Of Residential Land Removed For ROW	3.8	35.5	39.3
Total Number Of Acres Of Employment Land In Analysis Zone	747.8	434.7	1182.5
Number Of Acres Of Employment Land Removed For ROW	71.7	59.4	131.1
Total Number Of Acres Of Other Land In Analysis Zone	314.8	235.9	550.7
Number Of Acres Of Other Land Removed For ROW	20.0	0.7	20.6
Number Of Acres Of Existing Public ROW In Analysis Zone	272.7	539.2	811.9

DESIGN OPTION A-2, ALTERNATIVE 2 ZONE A- Detailed Tables

Table D-2 Design Option A-2 Alternative 2, Zone A - Total Impacts:

Zone A, Option A-2	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	164.1	151	45	27
Zone A Total	1588.4	1121	NA	2281
% Of Total	10.3%	13.5%	NA	1.2%

Table D-3 Design Option A-2 Alternative 2, Zone A - Residential Land Impacted By New ROW

Zone A Option A-2	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	516	72	5	593
Number Of Lots Impacted	9	6	0	15
Percentage Of Lots Impacted	1.7%	8.3%	0.0%	2.5%
Number Of Acres In Zone	123.9	100.6	28.7	253.1
Acres Required For ROW	1.9	1.9	0.0	3.8
Percentage Of Land Area Required For ROW	1.5%	1.9%	0.0%	1.5%

Table D-4 Design Option A-2 Alternative 2, Zone A - Residential Units To Be Removed For New ROW

Zone A Option A-2	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	515	1542	216	8	2281
Number Of Units To Be Removed For ROW	3	24	0	0	27
Percentage Of Units To Be Removed For ROW	0.6%	1.6%	0.0%	0.0%	1.2%

Table D-5 Design Option A-2 Alternative 2, Zone A - Employment Land Impacted By New ROW

Zone A, Option A-2	Existing Employment Land Use Category					
	Commercial	Industrial	Office	Office Warehouse	Warehouse	Total
Number Of Lots In Zone	141	117	40	20	54	372
Number Of Lots Impacted	45	24	13	4	12	98
Percentage Of Lots Impacted	31.9%	20.5%	32.5%	20.0%	22.2%	26.3%
Number Of Acres In Zone	214.1	217.0	74.0	57.0	185.8	747.8
Acres Required For ROW	17.3	30.5	13.5	4.1	6.3	71.7
Percentage Of Land Area Required For ROW	8.1%	14.1%	18.3%	7.2%	3.4%	9.6%
Employment Buildings To Be Removed For ROW	16	6	7	4	3	36

Table D-6 Design Option A-2 Alternative 2, Zone A - Land In Other Uses To Be Impacted By New ROW

Zone A, Option A-2	Existing Other Land Use Category									
	Church	Community Uses	Emergency Services	Military	Open Space	Park	ROW	Schools	Utilities	Total Other Uses
Number Of Lots In Zone	6	5	1	2	8	3	25	7	12	69
Number Of Lots Impacted	0	2	0	1	6	0	2	1	3	15
Percentage Of Lots Impacted	0.0%	40.0%	0.0%	50.0%	75.0%	0.0%	8.0%	14.3%	25.0%	21.7%
Number Of Acres In Zone	4.1	3.1	2.8	78.1	21.7	78.3	7.4	47.9	71.4	314.8
Acres Required For ROW	0.0	0.4	0.0	1.0	10.0	0.0	0.5	0.2	8.1	20.0
Percentage Of Land Area Required For ROW	0.0%	11.8%	0.0%	1.3%	45.7%	0.0%	6.5%	0.4%	11.3%	6.3%
Buildings On Other Land Use	0	1	0	0	0	0	0	0	0	1

Categories To Be Removed For ROW

Table D-7 Design Option A-2 Alternative 2, Zone A - ROW Impacts To Vacant Land

Zone A, Option A-2	Existing Land Use Category
	Vacant
Number of Lots in Zone	87
Number of Lots Impacted	23
Percentage of Lots Impacted	26.4%
Number of Acres in Zone	272.7
Acres Required for ROW	68.7
Percentage of Land Area Required for ROW	25.2%
Buildings on Vacant Land to be Removed for ROW	1

Table D-8 Design Option A-2 Alternative 2, Zone A - ROW Impacts To County Zoning Designations

Current Zone Designation	Acres	Acres Impact by ROW	Percentage of Total Acres
BP	192.9	34.3	17.8%
C3	200.2	25.1	12.5%
HDR	55.4	5.0	9.0%
I2	480.3	58.1	12.1%
I3	231.7	36.2	15.6%
MR1	37.5	0.2	0.4%
OC	62.2	0.6	0.9%
OSM	105.0	3.6	3.5%
PMD	3.3	0.0	0.5%
R10	182.1	0.1	0.0%
R20	85.7	0.0	0.0%
RCC	66.5	0.2	0.3%
RCO	56.5	0.8	1.3%
Option A-2 Totals	**1,759.1**	**164.1**	9.3%

APPENDIX E: DESIGN OPTION B-2,

ALTERNATIVE 2 IMPACT DATA TABLES

Table E-1 Summary of Impacts - Design Option B-2 Alternative 2

	Option B-2 With Alt 2			
Effects Of Alternatives & Design Options	**Zone B**	**Zone C**	**Zone A And D Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	931	464	1974	3369
Total Number Of Lots Impacted By ROW	97	29	198	324
Total Number Of Acres In Analysis Zone	837.2	484.9	2345.2	3667.3
Total Acres Removed For ROW	180.9	58.2	282.2	521.2
Total Number Of Residential Units In Analysis Zone	1429	873	3043	5345
Total Number Of Residential Units To Be Removed For ROW	7	34	34	75
Total Number Of Single Family Units In Analysis Zone	761	354	1285	13302
Number Of Single Family Units To Be Removed For ROW	1	4	10	15
Total Number Of Multifamily Units In Analysis Zone	290	0	1542	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	378	519	216	1113
Number Of Mobile Home Units To Be Removed For ROW	6	30	0	36
Total Number Of Residential Acres In Analysis Zone	227.6	251.8	642.9	1122.3
Number Of Acres Of Residential Land Removed For ROW	3.8	11.0	24.7	39.4
Total Number Of Acres Of Employment Land In Analysis Zone	363.5	37.3	781.7	1182.5
Number Of Acres Of Employment Land Removed For ROW	49.8	10.0	77.5	137.2
Total Number Of Acres Of Other Land In Analysis Zone	90.4	100.3	360.0	550.7
Number Of Acres Of Other Land Removed For ROW	0.0	0.0	26.4	26.4
Number Of Acres Of Existing Public ROW In Analysis Zone	155.8	95.6	560.6	811.9

DESIGN OPTION B-2, ALTERNATIVE 2 ZONES B and C- Detailed Tables

Table E-2 Design Option B-2 Alternative 2, Zone B - Total Impacts:

Design Option B-2 Zone B	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	180.9	97	24	7
Zone B Totals	837.2	931	NA	1429
% Of Total	21.6%	10.4%	NA	0.5%

Table E-3 Design Option B-2 Alternative 2, Zone C - Total Impacts:

Design Option B-2 Zone C	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	58.2	29	44	34
Zone C Totals	484.9	464	Na	873
% Of Total	12.0%	6.3%	Na	3.9%

Table E-4 Design Option B-2 Alternative 2, Zone B - Residential Land Impacted By New Row

Design Option B-2 Zone B	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	760	3	8	771
Number Of Lots Impacted	8	1	2	11
Percentage Of Lots Impacted	1.1%	33.3%	25.0%	1.4%
Number Of Acres In Zone	160.5	19.0	48.1	227.6
Acres Required For Row	2.2	0.8	0.8	3.8
Percentage Of Land Area Required For Row	1.4%	4.3%	1.6%	1.7%
Buildings To Be Removed For Row	1	0	6	7

Table E-5 Design Option B-2 Alternative 2, Zone C - Residential Land Impacted By New Row

Design Option B-2 Zone C	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	354	0	16	370
Number Of Lots Impacted	4	-	1	5
Percentage Of Lots Impacted	1.1%		6.3%	1.4%
Number Of Acres In Zone	154.3	0.0	97.5	251.8
Acres Required For ROW	6.4	-	4.6	11.0
Percentage Of Land Area Required For ROW	4.2%		4.7%	4.4%
Buildings To Be Removed For ROW	4	-	30	34

Table E-6 Design Option B-2 Alternative 2, Zone B - Residential Units To Be Removed For New Row

Design Option B-2 Zone B	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	760	290	378	1	1429
Number Of Units To Be Removed For Row	1	0	6	0	7
Percentage Of Units To Be Removed For Row	0.1%	0.0%	1.6%	0.0%	0.5%

Table E-7 Design Option B-2 Alternative 2, Zone C - Residential Units To Be Removed For New ROW

Design Option B-2 Zone C	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	353	0	519	1	873
Number Of Units To Be Removed For Row	3	-	30	1	34
Percentage Of Units To Be Removed For Row	0.8%		5.8%	100.0%	3.9%

Table E-8 Design Option B-2 Alternative 2, Zone B - Employment Land Impacted By New ROW

Design Option B-2 Zone B	Existing Employment Land Use Category					
	Commercial	Industrial	Office	Office Warehouse	Warehouse	Total
Number Of Lots In Zone	21	37	0	8	33	99
Number Of Lots Impacted	14	32	-	1	29	76
Percentage Of Lots Impacted	66.7%	86.5%		12.5%	87.9%	76.8%
Number Of Acres In Zone	27.6	65.7	0.0	11.0	259.2	363.5
Acres Required For Row	2.8	28.7	-	0.1	18.2	49.8
Percentage Of Land Area Required For Row	10.2%	43.7%		1.0%	7.0%	13.7%
Employment Buildings To Be Removed For Row	5	10	0	0	2	17

Table E-9 Design Option B-2 Alternative 2, Zone C - Employment Land Impacted By New ROW

Design Option B-2 Zone C	Existing Employment Land Use Category			
	Commercial	Industrial	Warehouse	Total
Number Of Lots In Zone	10	16	6	32
Number Of Lots Impacted	6	8	2	16
Percentage Of Lots Impacted	60.0%	50.0%	33.3%	50.0%
Number Of Acres In Zone	8.2	22.0	7.1	37.3
Acres Required For Row	2.8	7.2	-	10.0
Percentage Of Land Area Required For Row	34.0%	32.8%	0.0%	26.8%
Employment Buildings To Be Removed For Row	4	6	0	10

Table E-10 Design Option B-2 Alternative 2, Zone B - Land In Other Uses To Be Impacted By New ROW

Design Option B-2 Zone B	Existing Other Land Use Category					
	Emergency Services	Open Space	Park	ROW	Schools	Total Other Uses
Number Of Lots In Zone	3	13	2	17	5	37
Number Of Lots Impacted	0	0	0	0	0	0
Percentage Of Lots Impacted	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Number Of Acres In Zone	4.1	9.3	4.3	9.2	63.5	90.42
Acres Required For ROW	0.0	0.0	0.0	0.0	0.0	0.00
Percentage Of Land Area Required For ROW	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Buildings On Other Land Use Categories To Be Removed For ROW	0	0	0	0	0	0

Table E-11 Design Option B-2 Alternative 2, Zone C - Land In Other Uses To Be Impacted By New Row

Design Option B-2 Zone C	Existing Other Land Use Category					
	Agriculture	Open Space	Row	Schools	Utilities	Total Other Uses
Number Of Lots In Zone	3	17	8	1	1	30
Number Of Lots Impacted	0	1	0	0	0	1
Percentage Of Lots Impacted	0.0%	5.9%	0.0%	0.0%	0.0%	3.3%
Number Of Acres In Zone	73.3	21.8	2.4	0.4	2.41	100.25
Acres Required For Row	0.0	0.0	0.0	0.0	0.00	0.00
Percentage Of Land Area Required For Row	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Buildings On Other Land Use Categories To Be Removed For Row	0	0	0	0	0	0

Table E-12 Design Option B-2 Alternative 2, Zone B - Impacts To Vacant Land

Design Option B-2 Zone B	Existing Land Use Category
	Vacant
Number of Lots in Zone	21
Number of Lots Impacted	10
Percentage of Lots Impacted	47.6%
Number of Acres in Zone	155.7
Acres Required for ROW	127.3
Percentage of Land Area Required for ROW	81.8%
Buildings on Vacant Land to be Removed for ROW	0

Table E-13 Design Option B-2 Alternative 2, Zone C - Impacts To Vacant Land

Design Option B-2 Zone C	Existing Land Use Category
	Vacant
Number of Lots in Zone	32
Number of Lots Impacted	7
Percentage of Lots Impacted	21.9%
Number of Acres in Zone	95.6
Acres Required for ROW	37.2
Percentage of Land Area Required for ROW	38.9%
Buildings on Vacant Land to be Removed for ROW	1

Table E-14 Design Option B-2 Alternative 2, Zone B -ROW Impacts To County Zoning Designations

Design Option B-2 Zone B Current Zone Designation	Acres	Acres Impact by ROW	Percentage of Total Acres
I2	418.9	50.0	11.9%
I3	30.3	28.9	95.6%
MR2	19.5	0.8	4.2%
R8.5	210.7	10.4	4.9%
R20	90.7	90.7	100.1%
Option B-2 Subtotals	770.1	180.9	23.5%

Table E-15 Design Option B-2 Alternative 2, Zone C -ROW Impacts To County Zoning Designations

Design Option B-2 Zone C Current Zone Designation	Acres	Acres Impact by ROW	Percentage of Total Acres
C2	12.8	0.1	0.5%
I2	86.0	41.9	48.7%
MR1	134.2	4.6	3.4%
R8.5	67.0	1.4	2.1%
R20	11.8	10.2	86.4%
Option B-2 Subtotals	311.8	58.1	18.6%

APPENDIX F: DESIGN OPTION C-2,

ALTERNATIVE 2 IMPACT DATA TABLES

Table F-1 Summary Of Impacts Of Design Option C-2 Alternative 2

	Option C-2 With Alt 2		
Effects Of Alternatives & design options	**Zone C**	**Zones A B And D Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	464	2905	3369
Total Number Of Lots Impacted By ROW	31	271	302
Total Number Of Acres In Analysis Zone	484.9	3182.4	3667.3
Total Acres Removed For ROW	40.1	460.2	500.3
Total Number Of Residential Units In Analysis Zone	873	4472	5345
Total Number Of Residential Units To Be Removed For ROW	4	39	43
Total Number Of Single Family Units In Analysis Zone	354	2046	2400
Number Of Single Family Units To Be Removed For ROW	4	11	15
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	519	594	1113
Number Of Mobile Home Units To Be Removed For ROW	0	4	4
Total Number Of Residential Acres In Analysis Zone	251.8	870.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	3.3	28.3	31.6
Total Number Of Acres Of Employment Land In Analysis Zone	37.3	1145.2	1182.5
Number Of Acres Of Employment Land Removed For ROW	17.8	123.2	140.9
Total Number Of Acres Of Other Land In Analysis Zone	100.3	450.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.0	26.4	26.4
Number Of Acres Of Existing Public ROW In Analysis Zone	95.6	716.3	811.9

DESIGN OPTION C-2, ALTERNATIVE 2 ZONES C - Detailed Tables

Table F-2 Design Option C-2 Alternative 2, Zone C - Total Impacts:

Design Option C-2 Zone C	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-of-Way impacts	40.1	31.0	23.0	4.0
Zone C totals	484.9	464.0	NA	873.0
% of total	8.3%	6.7%	NA	0.5%

Table F-3 Design Option C-2 Alternative 2, Zone C - Residential Land Impacted By New ROW

Design Option C-2 Zone C	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number of Lots in Zone	354	0	16	370
Number of Lots Impacted	5	-	0	5
Percentage of Lots Impacted	1.4%	-	0.0%	1.4%
Number of Acres in Zone	154.3	0.0	97.5	251.8
Acres Required for ROW	3.3	-	0.0	3.3
Percentage of Land Area Required for ROW	2.1%	-	0.0%	1.3%
Buildings to be Removed for ROW	4	-	0	4

Table F-4 Design Option C-2 Alternative 2, Zone C - Residential Units To Be Removed For New Row

Design Option C-2 Zone C	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	353	0	519	1	873
Number Of Units To Be Removed For ROW	4	-	0	0	4
Percentage Of Units To Be Removed For ROW	1.1%	-	0.0%	0.0%	0.5%

Table F-5 Design Option C-2 Alternative 2, Zone C - Employment Land Impacted By New ROW

Design Option C-2 Zone C	Existing Employment Land Use Category			
	Commercial	Industrial	Warehouse	Total
Number Of Lots In Zone	10	16	6	32
Number Of Lots Impacted	5	9	4	18
Percentage Of Lots Impacted	50.0%	56.3%	66.7%	56.3%
Number Of Acres In Zone	8.2	22.0	7.1	37.3
Acres Required For ROW	2.7	9.2	5.9	17.8
Percentage Of Land Area Required For ROW	33.4%	41.6%	82.4%	47.6%
Employment Buildings To Be Removed For ROW	4	8	7	19

Table F-6 Design Option C-2 Alternative 2, Zone C - Land In Other Uses Impacted By New ROW

Design Option C-2 Zone C	Existing Other Land Use Category					
	Agriculture	Open Space	Row	Schools	Utilities	Total Other Uses
Number Of Lots In Zone	3	17	8	1	1	27
Number Of Lots Impacted	0	0	0	0	0	0
Percentage Of Lots Impacted	0.0%	0.0%	0.0%	0.0%	0.0%	
Number Of Acres In Zone	73.3	21.8	2.4	0.4	2.4	100.25
Acres Required For Row	0.0	0.0	0.0	0.0	0.0	0.00
Percentage Of Land Area Required For Row	0.0%	0.0%	0.0%	0.0%	0.0%	
Buildings On Other Land Use Categories To Be Removed For Row	0	0	0	0	0	0

Table F-7 Design Option C-2 Alternative 2, Zone C -Row Impacts To County Zoning Designations

Design Option C-2 Zone C Current Zone Designation	Acres	Acres Impacted By ROW	Percentage Of Total Acres
I2	86.0	38.8	45.1%
R8.5	67.0	1.4	2.1%
Option C-2 Totals	153.0	40.1	

Table F-8 Design Option C-2 Alternative 2, Zone C - Row Impacts To Vacant Land

Design Option C-2 Zone C	Existing Land Use Category
	Vacant
Number of Lots in Zone	32
Number of Lots Impacted	8
Percentage of Lots Impacted	25.0%
Number of Acres in Zone	95.6
Acres Required for ROW	19.1
Percentage of Land Area Required for ROW	20.0%
Buildings on Vacant Land to be Removed for ROW	0

APPENDIX G: DESIGN OPTION C-3,

ALTERNATIVE 2 IMPACT DATA TABLES

Table G-1 Summary of Impacts Design Option C-3

	Option C-3 With Alt 2		
Effects Of Alternatives & design options	**Zone C**	**Zones A B And D Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	464	2905	3369
Total Number Of Lots Impacted By ROW	38	271	309
Total Number Of Acres In Analysis Zone	484.9	3182.4	3667.3
Total Acres Removed For ROW	64.0	460.2	524.2
Total Number Of Residential Units In Analysis Zone	873	4472	5345
Total Number Of Residential Units To Be Removed For ROW	35	39	74
Total Number Of Single Family Units In Analysis Zone	354	2046	2400
Number Of Single Family Units To Be Removed For ROW	5	11	16
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	519	594	1113
Number Of Mobile Home Units To Be Removed For ROW	30	4	34
Total Number Of Residential Acres In Analysis Zone	251.8	870.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	16.3	28.3	44.6
Total Number Of Acres Of Employment Land In Analysis Zone	37.3	1145.2	1182.5
Number Of Acres Of Employment Land Removed For ROW	14.8	123.2	137.9
Total Number Of Acres Of Other Land In Analysis Zone	100.3	450.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.8	26.4	27.2
Number Of Acres Of Existing Public ROW In Analysis Zone	95.6	716.3	811.9

DESIGN OPTION C-3, ALTERNATIVE 2 ZONES C- Detailed Tables

Table G-2 Design Option C-3 Alternative 2, Zone C - Total Impacts:

Design Option C-3 Zone C	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	64.0	38.0	53.0	35.0
Zone C Totals	484.9	464.0	NA	873.0
% Of Total	13.2%	8.2%	NA	4.0%

Table G-3 Design Option C-3 Alternative 2, Zone C - Residential Land Impacted By New ROW

Design Option C-3 Zone C	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	354	0	16	370
Number Of Lots Impacted	8	-	1	9
Percentage Of Lots Impacted	2.3%		6.3%	2.4%
Number Of Acres In Zone	154.3	0.0	97.5	251.8
Acres Required For ROW	11.7	-	4.6	16.3
Percentage Of Land Area Required For ROW	7.6%	-	4.7%	6.5%
Buildings To Be Removed For ROW	0	-	0	0

Table G-4 Design Option C-3 Alternative 2, Zone C - Residential Units To Be Removed For New ROW

Design Option C-3 Zone C	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	353	0	519	1	873
Number Of Units To Be Removed For Row	4	-	30	1	35
Percentage Of Units To Be Removed For Row	1.1%	-	5.8%	100.0%	4.0%

Table G-5 Design Option C-3 Alternative 2, Zone C - Employment Land Impacted By New Row

Design Option C-3 Zone C	Existing Employment Land Use Category			
	Commercial	Industrial	Warehouse	Total
Number Of Lots In Zone	10	16	6	32
Number Of Lots Impacted	5	8	4	17
Percentage Of Lots Impacted	50.0%	50.0%	66.7%	53.1%
Number Of Acres In Zone	8.2	22.0	7.1	37.3
Acres Required For Row	2.9	10.3	1.5	14.8
Percentage Of Land Area Required For Row	35.7%	46.9%	21.4%	39.6%
Employment Buildings To Be Removed For Row	4	8	1	13

Table G-6 Design Option C-3 Alternative 2, Zone C - Land In Other Uses Impacted By New ROW

Design Option C-3 Zone C	Existing Other Land Use Category					
	Agricultural Land	Open Space	Row	Schools	Utilities	Total Other Uses
Number Of Lots In Zone	3	17	8	1	1	30
Number Of Lots Impacted	0	1	0	0	0	1
Percentage Of Lots Impacted	0.0%	5.9%	0.0%	0.0%	0.0%	3.3%
Number Of Acres In Zone	73.3	21.8	2.4	0.4	2.4	100.3
Acres Required For Row	0.0	0.8	0.0	0.0	0.0	0.8
Percentage Of Land Area Required For Row	0.0%	3.8%	0.0%	0.0%		0.8%
Buildings On Other Land Use Categories To Be Removed For Row	0	0	0	0	0	0

Table G-7 Design Option C-3 Alternative 2, Zone C - Total Number Of Vacant Lots To Be Impacted

Design Option C-3 Zone C	Existing Land Use Category
	Vacant
Number Of Lots In Zone	32
Number Of Lots Impacted	11
Percentage Of Lots Impacted	34.4%
Number Of Acres In Zone	95.6
Acres Required For Row	32.2
Percentage Of Land Area Required For Row	33.7%
Buildings On Vacant Land To Be Removed For Row	3

Table G-8 Design Option C-3 Alternative 2, Zone C - ROW Impacts To County Zoning Designations

Design Option C-3 Zone C Current Zone Designation	Acres	Acres Impact by ROW	Percentage of Total Acres
FU10	102.7	5.5	5.3%
I2	86.0	32.9	38.3%
MR1	134.2	4.6	3.4%
R8.5	67.0	6.8	10.1%
R15	7.6	4.1	54.0%
R20	11.8	10.2	86.7%
Option C-3 Totals	409.3	64.0	

APPENDIX H: DESIGN OPTION D-2,

ALTERNATIVE 2 IMPACT DATA TABLES

Table H-1 Direct Impacts of Design Option D-2 Alternative 2

	Option D-2 With Alt 2		
Effects Of Alternatives & design options	**Zone D**	**Zones A B And C Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	853	2516	3369
Total Number Of Lots Impacted By ROW	53	248	301
Total Number Of Acres In Analysis Zone	756.8	2910.5	3667
Total Acres Removed For ROW	94.1	413.5	507.6
Total Number Of Residential Units In Analysis Zone	762.0	4583.0	5345.0
Total Number Of Residential Units To Be Removed For ROW	8	65	73
Total Number Of Single Family Units In Analysis Zone	762	1638	2400
Number Of Single Family Units To Be Removed For ROW	8	7	15
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	0	1113	1113
Number Of Mobile Home Units To Be Removed For ROW	0	34	34
Total Number Of Residential Acres In Analysis Zone	389.8	732.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	20.8	18.4	39.2
Total Number Of Acres Of Employment Land In Analysis Zone	33.9	1148.6	1182.5
Number Of Acres Of Employment Land Removed For ROW	5.5	128.1	133.6
Total Number Of Acres Of Other Land In Analysis Zone	45.3	505.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.7	25.7	26.4
Number Of Acres Of Existing Public ROW In Analysis Zone	287.8	524.1	811.9

DESIGN OPTION D-2, ALTERNATIVE 2 ZONES D - Detailed Tables

Table H-2 Design Option D-2 Alternative 2, Zone D - Total Impacts:

Design Option D-2 Zone D	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	94.1	53	9	8
Zone D Totals	756.8	853	NA	762
% Of Total	12.4%	6.2%	NA	1.0%

Table H-3 Design Option D-2 Alternative 2, Zone D - Residential Land Impacted By New ROW

Design Option D-2 Zone D	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	756	0	0	756
Number Of Lots Impacted	26	0	0	26
Percentage Of Lots Impacted	3.4%	0.0%	0.0%	3.4%
Number Of Acres In Zone	389.8	0.0	0.0	389.8
Acres Required For ROW	20.8	0.0	0.0	20.8
Percentage Of Land Area Required For ROW	5.3%	0.0%	0.0%	5.3%
Buildings To Be Removed For ROW	8	0	0	8

Table H-4 Design Option D-2 Alternative 2, Zone D - Residential Units To Be Removed For New ROW

Design Option D-2 Zone D	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number of Units	752	0	0	10	762
Number of Units to be Removed for ROW	5	-	-	3	8
Percentage of Units to be Removed for ROW	0.7%	-	-	30.0%	1.0%

Table H-5 Design Option D-2, Zone D - Employment Land Impacted By New ROW

Design Option D-2 Zone D	Existing Employment Land Use Category		
	Commercial	Industrial	Total
Number Of Lots In Zone	2	2	4
Number Of Lots Impacted	2	2	4
Percentage Of Lots Impacted	100.0%	100.0%	100.0%
Number Of Acres In Zone	10.6	23.3	33.9
Acres Required For ROW	3.2	2.3	5.5
Percentage Of Land Area Required For ROW	30.0%	10.0%	16.3%
Employment Buildings To Be Removed For ROW	2	1	3

Table H-6 Design Option D-2 Alternative 2, Zone D - Land In Other Uses To Be Impacted By New Row

Design Option D-2 Zone D	Existing Other Land Use Category					
	Church	Open Space	Park	ROW	Utilities	Total Other Uses
Number Of Lots In Zone	1	17	3	12	2	35
Number Of Lots Impacted	0	0	0	1	2	3
Percentage Of Lots Impacted	0.0%	0.0%	0.0%	8.3%	100.0%	8.6%
Number Of Acres In Zone	4.1	31.3	6.0	2.2	1.7	45.3
Acres Required For ROW	0.0	0.0	0.0	0.2	0.5	0.7
Percentage Of Land Area Required For ROW	0.0%	0.0%	0.0%	9.3%	27.2%	1.4%
Buildings On Other Land Use Categories To Be Removed For ROW	0	0	0	0	0	0

Table H-7 Design Option D-2 Alternative 2, Zone D - Total Number Of Vacant Lots To Be Impacted

Design Option D-2 Zone D	Existing Land Use Category
	Vacant
Number Of Lots In Zone	58
Number Of Lots Impacted	19
Percentage Of Lots Impacted	32.8%
Number Of Acres In Zone	287.8
Acres Required For ROW	67.1
Percentage Of Land Area Required For ROW	23.3%
Buildings On Vacant Land To Be Removed For ROW	1

Table H-8 Design Option D-2 Alternative 2, Zone D - ROW Impacts To County Zoning Designations

Design Option D-2 Zone D Current Zone Designation	Acres	Acres Impact By ROW	Percentage Of Total Acres
EFU	185.0	56.9	30.8%
FU10	74.9	12.8	17.0%
MR1	15.2	2.0	13.2%
R7	64.9	0.1	0.1%
R10	102.5	1.4	1.4%
RA-2	26. 6	0.0	0.1%
RRFF5	259.7	20.9	8.0%
Option D-2 Totals	728.8	94.1	12.5%

APPENDIX I: DESIGN OPTION D-3,

ALTERNATIVE 2 IMPACT DATA TABLES

Table I-1 Direct Impacts of Design Option D-3 Alternative 2

	Option D3 With Alt 2		
Effects Of Alternatives & Design Options	**Zone D**	**Zones A B And C Alt 2**	**Total**
Total Number Of Lots In Analysis Zones	853	2516	3369
Total Number Of Lots Impacted By ROW	**48**	**248**	**296**
Total Number Of Acres In Analysis Zone	756.8	2910.5	3667
Total Acres Removed For ROW	**86.5**	**413.5**	**500.0**
Total Number Of Residential Units In Analysis Zone	762.0	4583.0	5345.0
Total Number Of Residential Units To Be Removed For ROW	**8**	**65**	**73**
Total Number Of Single Family Units In Analysis Zone	762	1638	2400
Number Of Single Family Units To Be Removed For ROW	**8**	**7**	**15**
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	**0**	**24**	**24**
Total Number Of Mobile Home Units In Analysis Zone	0	1113	1113
Number Of Mobile Home Units To Be Removed For ROW	**0**	**34**	**34**
Total Number Of Residential Acres In Analysis Zone	389.8	732.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	20.8	18.4	39.2
Total Number Of Acres Of Employment Land In Analysis Zone	33.9	1148.6	1182.5
Number Of Acres Of Employment Land Removed For ROW	**3.4**	**128.1**	**131.5**
Total Number Of Acres Of Other Land In Analysis Zone	45.3	505.5	550.7
Number Of Acres Of Other Land Removed For ROW	**95.2**	**25.7**	**120.9**
Number Of Acres Of Existing Public ROW In Analysis Zone	287.8	524.1	811.9

DESIGN OPTION D-3, ALTERNATIVE 2 ZONES D - Detailed Tables

Table I-2 Design Option D3 Alternative 2, Zone D - Total Impacts:

Design Option D3 Zone D	Number Of Acres	Number Of Lots Impacted	Number Of Buildings Removed	Number Of Residential Units Removed
Right-Of-Way Impacts	86.5	48	11	8
Zone D Totals	756.8	853	Na	762
% Of Total	11.4%	5.6%	Na	1.1%

Table I-3 Design Option D-3 Alternative 2, Zone D - Residential Land Impacted By New ROW

Design Option D3 Zone D	Existing Residential Land Use Category			
	Single Family	Multi Family	Mobile Home Park	Total Residential Land
Number Of Lots In Zone	756	0	0	756
Number Of Lots Impacted	23	-	-	23
Percentage Of Lots Impacted	3.0%	-	-	3.0%
Number Of Acres In Zone	389.8	0.0	0.0	389.8
Acres Required For ROW	20.9	-	-	20.9
Percentage Of Land Area Required For ROW	5.4%	-	-	5.4%
Buildings To Be Removed For ROW	0	-	-	0

Table I-4 Design Option D-3 Alternative 2, Zone D - Residential Units To Be Removed For New ROW

Design Option D3 Zone D	Existing Land Use Categories				
	Single Family Residential	Multi Family Residential	Mobile Home Park	Other	Total
Total Number Of Units	752	0	0	10	762
Number Of Units To Be Removed For ROW	6	-	-	2	8
Percentage Of Units To Be Removed For ROW	0.8%	-	-	20.0%	1.0%

Table I-5 Design Option D-3, Zone D - Employment Land Impacted By New ROW

Design Option D3 Zone D	Land Use Category		
	Commercial	Industrial	Total
Number Of Lots In Zone	2	2	4
Number Of Lots Impacted	2	2	4
Percentage Of Lots Impacted	100.0%	100.0%	100.0%
Number Of Acres In Zone	10.6	23.3	33.9
Acres Required For ROW	3.4	2.3	5.7
Percentage Of Land Area Required For ROW	32.1%	10.0%	16.8%
Employment Buildings To Be Removed For ROW	2	1	3

Table I-6 Design Option D-3 Alternative 2, Zone D - Land In Other Uses To Be Impacted By New Row

Design Option D3 Zone D	Existing Other Land Use Category					
	Church	Open Space	Park	ROW	Utilities	Total Other Uses
Number of Lots in Zone	1	17	3	12	2	35
Number of Lots Impacted	0	0	0	1	2	3
Percentage of Lots Impacted	0.0%	0.0%	0.0%	8.3%	100.0%	8.6%
Number of Acres in Zone	4.1	31.3	6.0	2.2	1.7	45.3
Acres Required for ROW	0.0	0.0	0.0	0.2	0.5	0.7
Percentage of Land Area Required for ROW	0.0%	0.0%	0.0%	9.3%	27.2%	1.4%
Buildings on Other Land Use Categories to be Removed for ROW	0	0	0	0	0	0

Table I-7 Design Option D-3 Alternative 2, Zone D - Total Number Of Vacant Lots To Be Impacted

Design Option D3 Zone D	Existing Land Use Category
	Vacant
Number Of Lots In Zone	58
Number Of Lots Impacted	18
Percentage Of Lots Impacted	31.0%
Number Of Acres In Zone	287.8
Acres Required For ROW	59.3
Percentage Of Land Area Required For ROW	20.1%
Buildings On Vacant Land To Be Removed For ROW	2

Table I-8 Design Option D-3 Alternative 2, Zone D - ROW Impacts To County Zoning Designations

Design Option D3 Zone D Current Zone Designation	Acres	Acres Impact By ROW	Percentage Of Total Acres
EFU	185.0	49.0	26.5%
FU10	74.9	12.9	17.2%
MR1	15.2	2.0	13.2%
R7	64.9	0.1	0.1%
R10	102.5	1.4	1.4%
RA2	26.6	0.0	0.1%
RRFF5	259.7	21.2	8.2%
Option D3 Totals	728.8	85.2	11.7%

APPENDIX J: DESIGN OPTION IMPACT SUMMARY TABLES

ALTERNATIVE 3

DESIGN OPTION A-2, ALTERNATIVE 3

Table J-1 Summary of Direct Impact of Design Option A2, Alternative 3

	Option A2 - With Alt 3		
Effects Of Alternatives & Design Options	**Zone A**	**Zones B C And D Alt 3**	**Total**
Total Number Of Lots In Analysis Zones	1121	2248	3369
Total Number Of Lots Impacted By ROW	151	109	260
Total Number Of Acres In Analysis Zone	1588.4	2078.9	3667.3
Total Acres Removed For ROW	164.1	312.9	477.0
Total Number Of Residential Units In Analysis Zone	2281	3064	5345
Total Number Of Residential Units To Be Removed For ROW	27	45	72
Total Number Of Single Family Units In Analysis Zone	523	1877	2400
Number Of Single Family Units To Be Removed For ROW	3	11	14
Total Number Of Multifamily Units In Analysis Zone	1542	290	1832
Number Of Multifamily Family Units To Be Removed For ROW	24	0	24
Total Number Of Mobile Home Units In Analysis Zone	216	897	1113
Number Of Mobile Home Units To Be Removed For ROW	0	34	34
Total Number Of Residential Acres In Analysis Zone	253.1	869.1	1122.3
Number Of Acres Of Residential Land Removed For ROW	3.8	35.4	39.2
Total Number Of Acres Of Employment Land In Analysis Zone	747.8	434.7	1182.5
Number Of Acres Of Employment Land Removed For ROW	71.7	43.8	115.5
Total Number Of Acres Of Other Land In Analysis Zone	314.8	235.9	550.7
Number Of Acres Of Other Land Removed For ROW	20.0	0.7	20.6
Number Of Acres Of Existing Public ROW In Analysis Zone	272.7	539.2	811.9

DESIGN OPTION C-2, ALTERNATIVE 3

Table J-2 Summary of Direct Impact of Design Option C2, Alternative 3

	Option C2 With Alt 3		
Effects Of Alternatives & Design Options	**Zone C**	**Zones A B And D Alt 3**	**Total**
Total Number Of Lots In Analysis Zones	464	2905	3369
Total Number Of Lots Impacted By ROW	31	234	265
Total Number Of Acres In Analysis Zone	484.9	3182.4	3667.3
Total Acres Removed For ROW	40.1	441.6	481.7
Total Number Of Residential Units In Analysis Zone	873	4472	5345
Total Number Of Residential Units To Be Removed For ROW	4	39	43
Total Number Of Single Family Units In Analysis Zone	354	2046	2400
Number Of Single Family Units To Be Removed For ROW	4	11	15
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	519	594	1113
Number Of Mobile Home Units To Be Removed For ROW	0	4	4
Total Number Of Residential Acres In Analysis Zone	251.8	870.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	3.3	28.2	31.5
Total Number Of Acres Of Employment Land In Analysis Zone	37.3	1145.2	1182.5
Number Of Acres Of Employment Land Removed For ROW	17.8	107.5	125.3
Total Number Of Acres Of Other Land In Analysis Zone	100.3	450.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.0	26.4	26.4
Number Of Acres Of Existing Public ROW In Analysis Zone	95.6	716.3	811.9

DESIGN OPTION C-3, ALTERNATIVE 3

Table J-3 Summary of Direct Impact of Design Option C3, Alternative 3

	Option C3 With Alt 3		
Effects Of Alternatives & Design Options	**Zone C**	**Zones A B And D Alt 3**	**Total**
Total Number Of Lots In Analysis Zones	464	2905	3369
Total Number Of Lots Impacted By ROW	38	234	272
Total Number Of Acres In Analysis Zone	484.9	3182.4	3667.3
Total Acres Removed For ROW	64.0	441.6	505.6
Total Number Of Residential Units In Analysis Zone	873	4472	5345
Total Number Of Residential Units To Be Removed For ROW	35	39	74
Total Number Of Single Family Units In Analysis Zone	354	2046	2400
Number Of Single Family Units To Be Removed For ROW	5	11	16
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	519	594	1113
Number Of Mobile Home Units To Be Removed For ROW	30	4	34
Total Number Of Residential Acres In Analysis Zone	251.8	870.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	16.3	28.2	44.5
Total Number Of Acres Of Employment Land In Analysis Zone	37.3	1145.2	1182.5
Number Of Acres Of Employment Land Removed For ROW	14.8	107.5	122.3
Total Number Of Acres Of Other Land In Analysis Zone	100.3	450.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.8	26.4	27.2
Number Of Acres Of Existing Public ROW In Analysis Zone	95.6	716.3	811.9

DESIGN OPTION D-2, ALTERNATIVE 3

Table J-4 Summary of Direct Impact of Design Option D2, Alternative 3

	Option D2 With Alt 3		
Effects Of Alternatives & Design Options	**Zone D**	**Zones A B And C Alt 3**	**Total**
Total Number Of Lots In Analysis Zones	853	2516	3369
Total Number Of Lots Impacted By ROW	53	211	264
Total Number Of Acres In Analysis Zone	756.8	2910.5	3667
Total Acres Removed For ROW	94.1	394.9	489.0
Total Number Of Residential Units In Analysis Zone	762.0	4583.0	5345.0
Total Number Of Residential Units To Be Removed For ROW	8	65	73
Total Number Of Single Family Units In Analysis Zone	762	1638	2400
Number Of Single Family Units To Be Removed For ROW	8	7	15
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	0	1113	1113
Number Of Mobile Home Units To Be Removed For ROW	0	34	34
Total Number Of Residential Acres In Analysis Zone	389.8	732.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	20.8	18.3	39.1
Total Number Of Acres Of Employment Land In Analysis Zone	33.9	1148.6	1182.5
Number Of Acres Of Employment Land Removed For ROW	5.5	112.5	118.0
Total Number Of Acres Of Other Land In Analysis Zone	45.3	505.5	550.7
Number Of Acres Of Other Land Removed For ROW	0.7	25.7	26.4
Number Of Acres Of Existing Public ROW In Analysis Zone	287.8	524.1	811.9

DESIGN OPTION D-3, ALTERNATIVE 3

Table J-5 Summary of Direct Impact of Design Option D3, Alternative 3

	Option D3 With Alt 3		
Effects Of Alternatives & Design Options	**Zone D**	**Zones A B And C Alt 3**	**Total**
Total Number Of Lots In Analysis Zones	853	2516	3369
Total Number Of Lots Impacted By ROW	48	211	259
Total Number Of Acres In Analysis Zone	756.8	2910.5	3667
Total Acres Removed For ROW	86.5	394.9	481.4
Total Number Of Residential Units In Analysis Zone	762.0	4583.0	5345.0
Total Number Of Residential Units To Be Removed For ROW	8	65	73
Total Number Of Single Family Units In Analysis Zone	762	1638	2400
Number Of Single Family Units To Be Removed For ROW	8	7	15
Total Number Of Multifamily Units In Analysis Zone	0	1832	1832
Number Of Multifamily Family Units To Be Removed For ROW	0	24	24
Total Number Of Mobile Home Units In Analysis Zone	0	1113	1113
Number Of Mobile Home Units To Be Removed For ROW	0	34	34
Total Number Of Residential Acres In Analysis Zone	389.8	732.5	1122.3
Number Of Acres Of Residential Land Removed For ROW	20.8	18.3	39.1
Total Number Of Acres Of Employment Land In Analysis Zone	33.9	1148.6	1182.5
Number Of Acres Of Employment Land Removed For ROW	3.4	112.5	115.9
Total Number Of Acres Of Other Land In Analysis Zone	45.3	505.5	550.7
Number Of Acres Of Other Land Removed For ROW	95.2	25.7	120.9
Number Of Acres Of Existing Public ROW In Analysis Zone	287.8	524.1	811.9

REFERENCES AND AGENCY CONSULTATIONS

Sources of Land Use Data

For the purpose of identifying the existing land uses and regulatory requirement in the area affected by the Sunrise Project, Clackamas County staff conducted a detailed land use inventory of the area during April and May, 2006. The results of this inventory of the land use study area are reported in this Technical Report. In addition to the field inventory, the County Staff consulted the following documents, plans and websites to obtain information on existing and future land uses in the land use study area:

Federal Documents and Studies

- *1993 Draft Environmental Impact Statement for Sunrise Corridor Highway 212/224 (I-205 to US 26)*
- *Sunrise Corridor Draft Environmental Impact Statement, Final Technical Report, Land Use, Prepared for Oregon Department of Transportation, Prepared by David Evans and Associates, Inc.,* December 20, 1991

State Plans and Documents

- *State Land Use Goals*
- State Transportation Planning Rule The Oregon Administrative Rules Filed Through May 15, 2006, Land Conservation and Development Department, Division 12, Transportation Planning, 660-012-0000
- *Oregon Transportation Plan:* http://www.oregon.gov/ODOT/TD/TP/
- Oregon Highway System map for the 2006 Oregon Transportation Plan: http://www.oregon.gov/ODOT/TD/TP/docs/ortransplanupdate/maps/Hwy.pdf
  - *Draft Oregon Transportation Plan July 19, 2006*
  - Public Hearing Draft, VOLUME 1, Released June 29, 2006, http://www.oregon.gov/ODOT/TD/TP/docs/ortransplanupdate/05otpVol1jul.pdf
  - Appendix: http://www.oregon.gov/ODOT/TD/TP/docs/ortransplanupdate/05otpVol2jul.pdf
- *1999 Oregon Highway Plan, An Element of the Oregon Transportation Plan, Oregon Department of Transportation*

Metro Plans and Documents

(Available on Metro's website - http://www.metro-region.org)

- *2004 Regional Transportation Plan and Appendix, Metro, July 8, 2004*
- *Regional Framework Plan*
- *Urban Growth Management Functional Plan*
- *2040 Growth Concept*
- *Regional Trails and Greenways, Connecting Neighborhoods to Nature document*
- Metro Trails and Greenways Map
- Clackamas River North Bank Greenway written description

Clackamas County Plans and Documents

- *Clackamas County Comprehensive Plan*
- *Clackamas County Transportation System Plans*
- *Clackamas County Zoning and Development Ordinance*
- *Rock Creek Employment Study*

Additional Clackamas County information was obtained from the following County data systems:

- Clackamas County GIS System
- Plan Map
- Permits Plus data base system for Clackamas County -- Land use permits including comprehensive plan changes, zone changes, conditional use approvals, and design review from January 2004 through June 2006 were reviewed for the study area.

Clackamas County Staff Land Use Inventory Data

- Field Inventory Maps and Data Sheets
- Mobile Home Park List
- Apartment List

Other Local Government or special district Plans and Documents

- Happy Valley planning requirements
- Damascus planning requirements
- *Damascus/Boring Concept Plan*
- North Clackamas Park District: Planning Documents
  - Existing Recreation Resources Map (NCPD Figure 4.2)
  - Figure 4.3, Facilities Plan, 2002 Master Plan Update
- Sabin-Schellenberg Occupational Skills Center web site

Sunrise Project Reports and Memorandum

- *Sunrise Project Environmental Baseline Report*

ACRONYMS AND ABBREVIATIONS

BG	Census Block Group
BMP	Best Management Practice
CPO	Community Planning Organization
CT	Census Tract
DEIS	Draft Environmental Impact Statement
EBR	Environmental Baseline Report
FHWA	Federal Highway Administration
GIS	Geographic Information System
LCDC	Land Conservation and Development Commission
MSA	Metropolitan Statistical Area
MTIP	Metropolitan Transportation Improvement Program
NEPA	National Environmental Policy Act
OAR	Oregon Administrative Rule
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish & Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORS	Oregon Revised Statues
OTP	Oregon Transportation Plan
PGE	Portland General Electric
PUD	Planned Unit Development
RLIS	Regional Land Information System
ROD	Record of Decision
RTP	Regional Transportation Plan
SIP	State Implementation Plan
STIP	State Transportation Improvement Plan
TAZ	Transportation Analysis Zone
TIF	Tax Increment Financing
UGB	Urban Growth Boundary
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers

WES	Water Environmental Services
ZDO	Zoning Development Ordinance

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