

# **US 26/Brookwood Parkway/Helvetia Road Interchange Area Management Plan**

**Hillsboro and Washington County, Oregon**

## **Technical Memorandum #2: Existing Conditions Analysis Initial Draft**

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## List of Acronyms

ADT	Average Daily Traffic
AF	Agriculture and Forest
BPA	Bonneville Power Administration
EFU	Exclusive Farm Use
FD-20	Future development
FEMA	Federal Emergency Management Agency
GIS	geographic information system
HCM	Highway Capacity Manual
IAMP	Interchange Area Management Plan
JTA	Jobs and Transportation Act
LLC	limited liability corporation
LOS	Level of Service
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
MP	mile point
NRHP	National Register of Historic Places
ODOT	Oregon Department of Transportation
ONHIC	Oregon Natural Heritage Information Center
OHP	Oregon Highway Plan
SHPO	State Historic Preservation Office
SID	Special Industrial District
SPIS	Safety Priority Index System
T&E	Threatened and Endangered
UGB	Urban growth boundary
URA	Urban Reserve Area
v/c	volume-to-capacity

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## 1. PURPOSE AND STUDY AREA

The Oregon Department of Transportation (ODOT) is modifying the Brookwood Parkway interchange on US 26 as part of the US 26/Brookwood Jobs and Transportation Act (JTA) Project; therefore, ODOT is required to adopt an Interchange Area Management Plan (IAMP) for the interchange. US 26 is locally and regionally significant in moving people, goods, and services through North Hillsboro and throughout the metropolitan region and the state. The US 26/Brookwood Parkway/Helvetia Road interchange has been serving and will continue to serve as a major entry point to large high-technology employment centers based throughout North Hillsboro.

The US 26/Brookwood Parkway/Helvetia Road interchange is currently approaching or exceeding the mobility standards identified in the Oregon Highway Plan (OHP) for this facility. The heavy westbound off-ramp traffic during the AM peak hour heading southbound and the corresponding northbound-to-eastbound movement in the PM peak hour are of primary concern. Local road connections to Brookwood Parkway and Helvetia Road near the interchange do not meet OHP access spacing standards, and the proximity of the local road connections to the interchange make local road access difficult and contribute to traffic congestion at and near the interchange during peak travel times. Traffic at the US 26/Brookwood Parkway/Helvetia Road interchange is projected to increase as new industrial development is attracted to North Hillsboro.

The purpose of the IAMP is to:

- Support the ongoing and future City of Hillsboro and Washington County transportation, land use, and economic development planning efforts in and around the study area described below (North Hillsboro); and
- Protect the future function of the interchange.

This technical memorandum identifies existing conditions within the Study Area. The Study Area includes the segment of US 26, accompanying local road networks, and land encompassed by Cornelius Pass Road (at US 26 mile point [MP] 62.53) on the east, Evergreen Road on the south, and Jackson School Road (at US 26 MP 58.42) on the west, and West Union Road on the north, as shown in Figure 1.

### Summary of Existing Natural, Historic, and Land Use Resources

Resources were identified for this memorandum based on available map and database information from federal agencies, the State of Oregon, Metro, Washington County, and the City of Hillsboro. Table 1 summarizes identified resources, including key natural resources along Waibel Creek and potential cultural resource areas along Waibel Creek and the Five Oaks area.

**Table 1. Summary of Identified Resources**

Resource Type	Resource	Location	Regulatory Authority
Land Use and Zoning	Floodplain Overlays, Significant Natural Resources Overlays	South of NW Birch Avenue	Local governments
Key Community Features	Rice Northwest Museum of Rocks and Minerals, Liberty High School and West Union Elementary School, Gordon Faber Park	NW Groveland, NW Jacobson and NW Cornelius Pass, NW West Union and NW Helvetia, between US 26 and NW Evergreen on 229 <sup>th</sup> Ave	N/A
Parks and Recreation	Gordon Faber Park	South of US 26 and adjacent to NW Cornelius Pass	Local governments
Culverts	Culverts	NW Brookwood Parkway near interchange	Oregon Department of Fish and Wildlife U.S. Army Corps of Engineers
Floodplains	Waibel and Storey Creeks 100-year floodplains	Waibel Creek and tributaries near interchange	FEMA regulations administered through local governments
Goal 5 Resources*	Waibel, Storey, Dawson and Glencoe Creeks and tributaries riparian corridor	Waibel Creek and tributaries near interchange	Local governments
Wetlands	Unidentified wetlands associated with creeks and their tributaries	Waibel Creek and tributaries near interchange	U.S. Army Corps of Engineers Oregon Department of State Lands
Threatened and Endangered Species	Steelhead	Waibel and Storey Creeks	Oregon Department of Fish and Wildlife
Hazardous Materials	RCRA Generators, ERNS, ECSI, Fire Marshall Spill, Landfills, LUSTs, USTs*	Throughout Study Area	Oregon Department of Environmental Quality
Historical and Archaeological Resources	Historical and cultural resources	Along Waibel Creek and potential sites in various locations throughout Study Area	Local governments
Section 4(f) Resources*	Parks and Historical/Cultural Resources	Along Waibel Creek and potential sites in various locations throughout Study Area	Federal Highway Administration
Section 6(f) Resources*	None identified - Parks funded by Land and Conservation Funds	N/A	N/A

\*Defined in Section 4

## 2. EXISTING LAND USE ANALYSIS

### Introduction

This section summarizes existing land use conditions within the Study Area. The information in this section is taken primarily from published documents, maps, geographic information system (GIS) data, city and county websites, and other resource websites. Figure 1 shows the comprehensive plan designations in the study area. Figure 2 shows the zoning designations.

The Study Area represents the western developed edge of the Portland Metropolitan area, with large areas of farmland mostly to the west, adjacent to industrial areas and residential development to the east. The interchange is a critical access point, serving the mobility needs for high-tech and supporting companies both inside and outside of the Study Area including Intel, Genentech, SolarWorld, TriQuint Semiconductor, Tokai Carbon USA, and Tokyo Ohka Kogyo America (TOK America). Hillsboro Airport, Oregon's second busiest airport, is just south of the Study Area.

### Jurisdictions

The US 26/Brookwood Parkway/Helvetia Road interchange is located both within the City of Hillsboro and Washington County jurisdictional boundaries. The majority of the west Study Area is within Washington County jurisdiction, except for a southern portion of the Study Area east of NW 253<sup>rd</sup> and south of NW Birch Avenue, which is in the City of Hillsboro jurisdiction. The east Study Area is within City of Hillsboro jurisdiction, except for several parcels north of the interchange that are adjacent to or near Helvetia Road.

### Urban Growth Boundary

The current western edge of the Urban Growth Boundary (UGB) north of US 26 (which is within the Study Area) follows NW Helvetia Road, with the northern edge following NW West Union Road. South of US 26, the western edge of the UGB zigzags around parcel lines south and west of NW Birch Avenue. There are two Urban Reserve Areas (URAs) in the Study Area. One area is north of the interchange adjacent to US 26 and west of NW Helvetia, and one area is south of the interchange, adjacent and south of US 26, and follows the western edge of the UGB. The URA north of the interchange is in the process of being expanded to include an additional 352 acres south of NW West Union Road and east of NW Groveland Road (see Figure 3).

Metro requires that, before adding land into the UGB, the local jurisdiction must meet Urban Growth Management Functional Plan Title 14: Urban Growth Boundary criteria and procedures for amendments to the UGB. The City of Hillsboro currently has submitted Title 14 documentation to request 310 acres be added to the UGB in the URA south of US 26 in the Study Area.

Once an area is added to the UGB, the local jurisdiction must provide documentation that the comprehensive plan amendment is consistent with all applicable titles of the Urban Growth Management Functional Plan. Title 11 of the Urban Growth Management Functional Plan lists

provisions that need to be addressed in the comprehensive plan amendment, including an urban growth plan diagram and policies consistent with the Regional Framework Plan and adopted 2040 Growth Concept design types. The City of Hillsboro has completed concept planning for the Evergreen, Shute, and Helvetia areas within the Study Area, as required under Metro's Title 11 Urban Growth Management Functional Plan. The majority of the Evergreen, Shute, and Helvetia concept planning areas are now within incorporated Hillsboro and are designated for industrial uses. These areas retain their rural character and many properties are actively farmed.

## **Existing Land Use and Zoning**

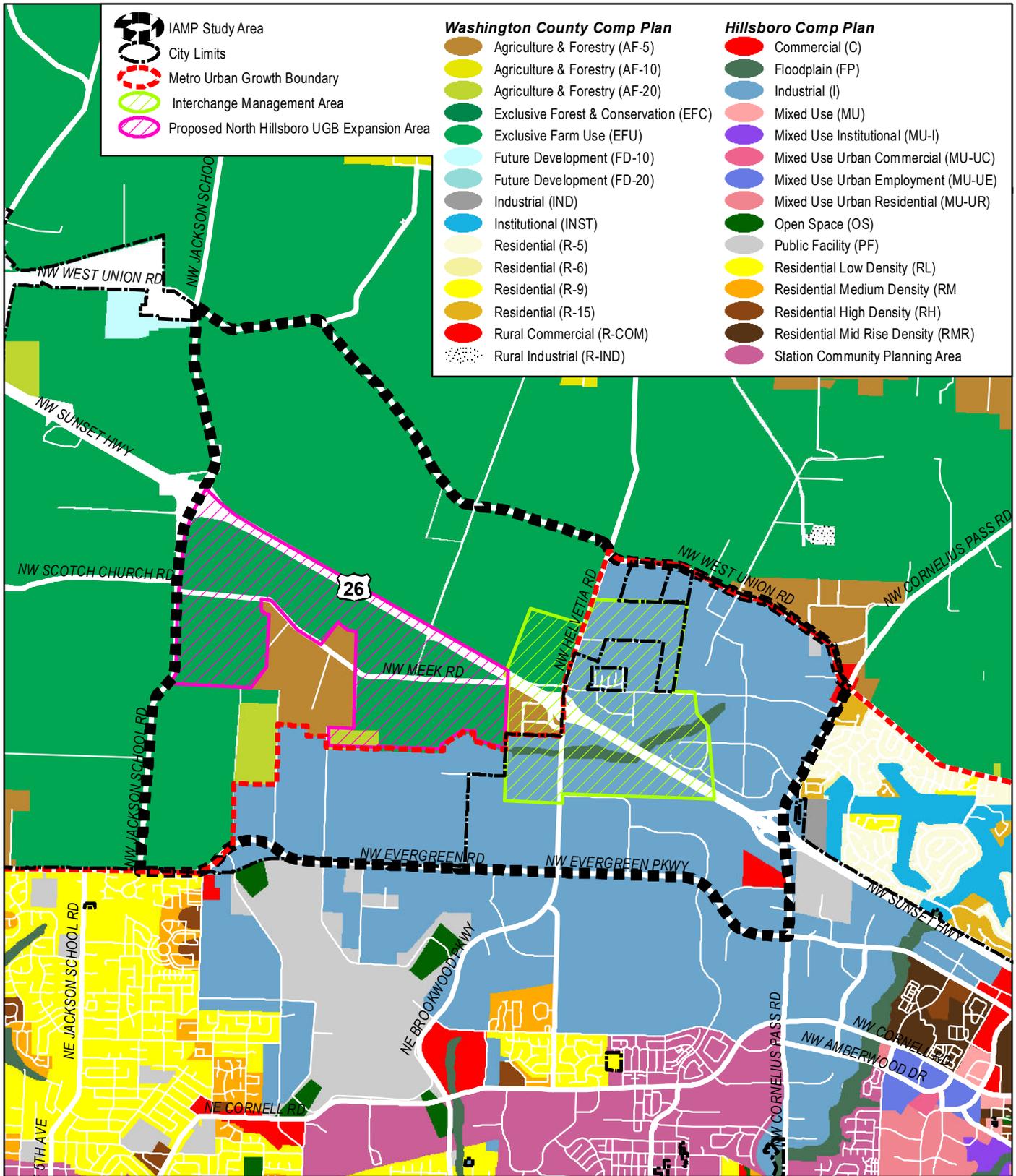
### ***Washington County—Northwest Quadrant***

Within the northwest quadrant of the interchange Study Area, current land use is primarily rural agricultural. There is some rural residential, mostly adjacent to NW Groveland Drive and between NW Groveland Drive and US 26. Aerial photography (see Figure 4) indicates that most of this area is currently actively farmed. West Union Elementary School is at the southwest corner of NW Helvetia Road and NW West Union Road, an automotive repair shop is at the corner of NW Groveland Drive and NW Groveland Road, and Rice Museum of Rocks and Minerals is north of NW Groveland Drive near its termination. Standing Groveland/Investment Co. LLC is a major owner closer to the interchange and north of smaller rural residential parcels along NW Groveland Drive. Farther from the interchange, major land owners are farming limited liability corporations (LLCs) such as Pasley Farms and Batchelder Farms.

Zoning in the northwest quadrant of the interchange Study Area is entirely Exclusive Farm Use. The intent of the Exclusive Farm Use District, according to the Washington County Community Development Code, is to: *preserve and maintain commercial agricultural land within the County*. The area between NW Helvetia Road, NW Groveland Drive, US 26, and NW West Union Road is designated Urban Reserve, with the intent that it becomes employment area and housing when needed in the future. Adjacent to the west of the URA is an undesignated area that is available to potentially accommodate urban growth if the nearby URAs are exhausted.

### ***Washington County—Southwest Quadrant***

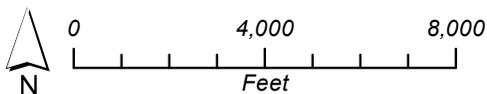
The portion of the southwest quadrant of the Study Area within Washington County jurisdictional boundaries consists of rural residential uses between NW Meek, NW Oak, and NW Birch. Zoning within this area supports rural residential uses (Agriculture and Forest-5 [AF-5]). Most of the parcels are owned by families or individuals, except for a parcel at the intersection of NW Oak and NW Meek that is owned by a religious organization. Further from the interchange along US 26 and outside of the UGB is mostly rural agricultural uses west of NW Birch, with some areas of rural residential around NW 268<sup>th</sup> Place and NW Sewell mostly south of NW Meek. Parcels in this area are owned by individuals or families, and the largest single property ownership is 81.89 acres. Zoning within the area includes Exclusive Farm Use (EFU), Agriculture and Forest- 20 (AF-20), and AF-5 uses in the northern section of the Study Area around NW Meek Road. Agricultural and Forest areas are intended to retain an area's rural



**US 26/Brookwood Parkway/  
Helvetia Road IAMP**

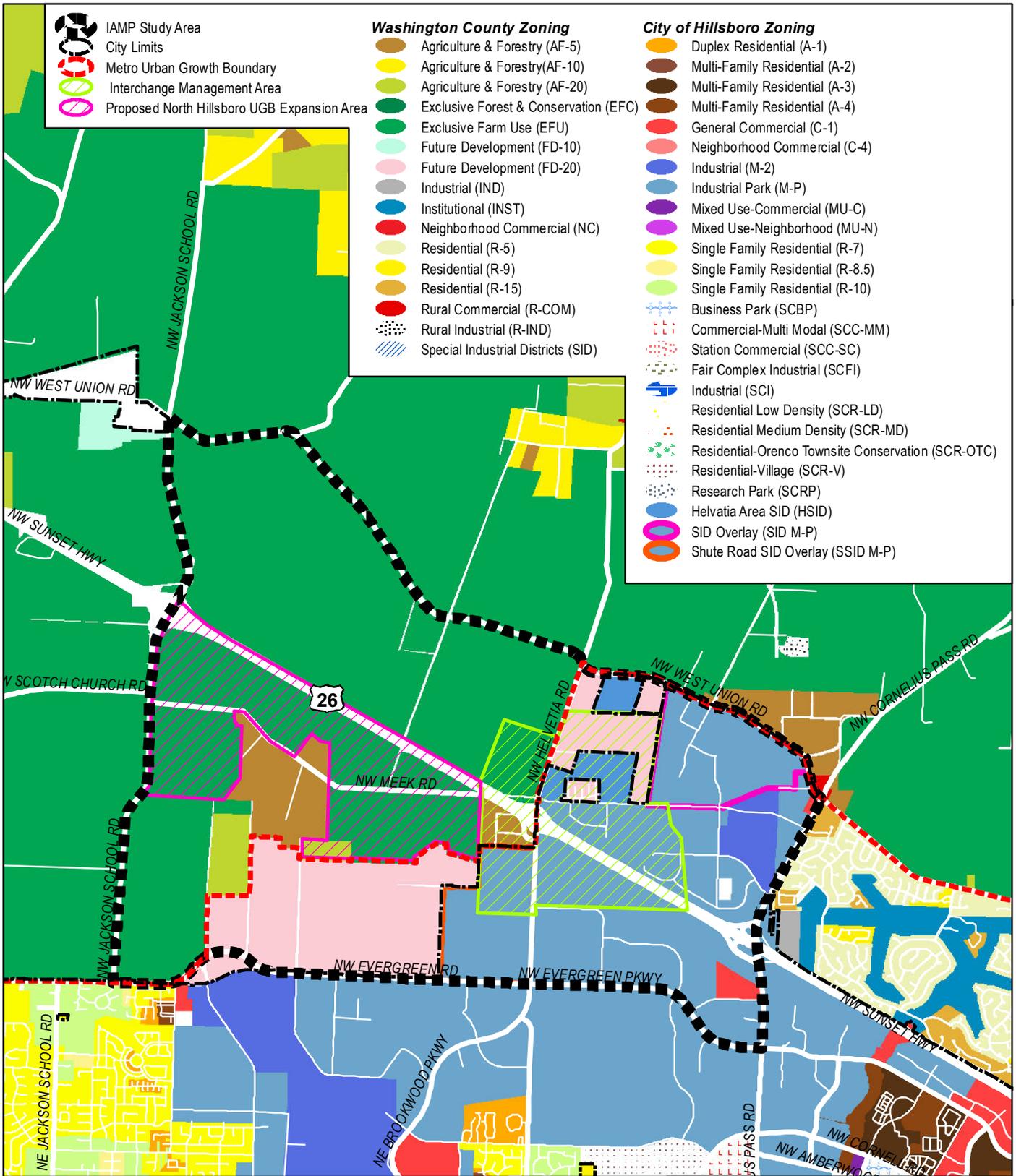


**Figure 1**  
*Comprehensive Plan  
Designations*



**Data Sources:**  
Metro RLIS GIS Data, 2011





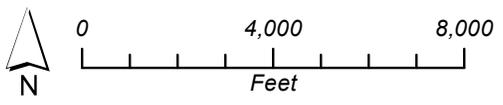
- IAMP Study Area
- City Limits
- Metro Urban Growth Boundary
- Interchange Management Area
- Proposed North Hillsboro UGB Expansion Area

- Washington County Zoning**
- Agriculture & Forestry (AF-5)
  - Agriculture & Forestry (AF-10)
  - Agriculture & Forestry (AF-20)
  - Exclusive Forest & Conservation (EFC)
  - Exclusive Farm Use (EFU)
  - Future Development (FD-10)
  - Future Development (FD-20)
  - Industrial (IND)
  - Institutional (INST)
  - Neighborhood Commercial (NC)
  - Residential (R-5)
  - Residential (R-9)
  - Residential (R-15)
  - Rural Commercial (R-COM)
  - Rural Industrial (R-IND)
  - Special Industrial Districts (SID)

- City of Hillsboro Zoning**
- Duplex Residential (A-1)
  - Multi-Family Residential (A-2)
  - Multi-Family Residential (A-3)
  - Multi-Family Residential (A-4)
  - General Commercial (C-1)
  - Neighborhood Commercial (C-4)
  - Industrial (M-2)
  - Industrial Park (M-P)
  - Mixed Use-Commercial (MU-C)
  - Mixed Use-Neighborhood (MU-N)
  - Single Family Residential (R-7)
  - Single Family Residential (R-8.5)
  - Single Family Residential (R-10)
  - Business Park (SCBP)
  - Commercial-Multi Modal (SCC-MM)
  - Station Commercial (SCC-SC)
  - Fair Complex Industrial (SCFI)
  - Industrial (SCI)
  - Residential Low Density (SCR-LD)
  - Residential Medium Density (SCR-MD)
  - Residential-Orengo Townsite Conservation (SCR-OTC)
  - Residential-Village (SCR-V)
  - Research Park (SCR-P)
  - Helvatia Area SID (HSID)
  - SID Overlay (SID M-P)
  - Shute Road SID Overlay (SSID M-P)

**US 26/Brookwood Parkway/  
Helvetia Road IAMP**

**Figure 2**  
**Zoning Designations**



**Data Sources:**  
Metro RLIS GIS Data, 2011

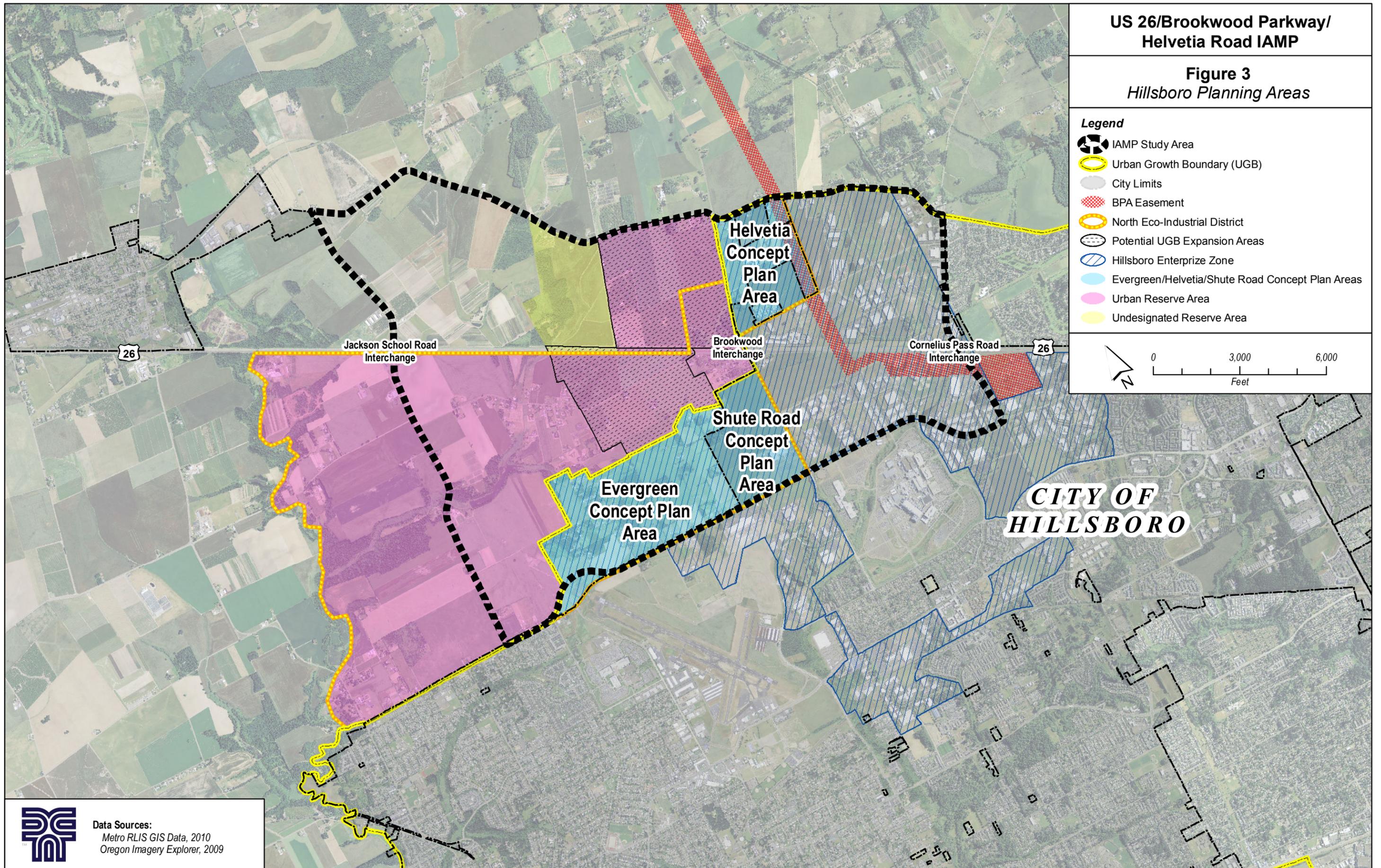
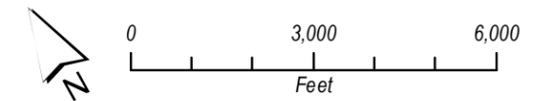


**US 26/Brookwood Parkway/  
Helvetia Road IAMP**

**Figure 3**  
*Hillsboro Planning Areas*

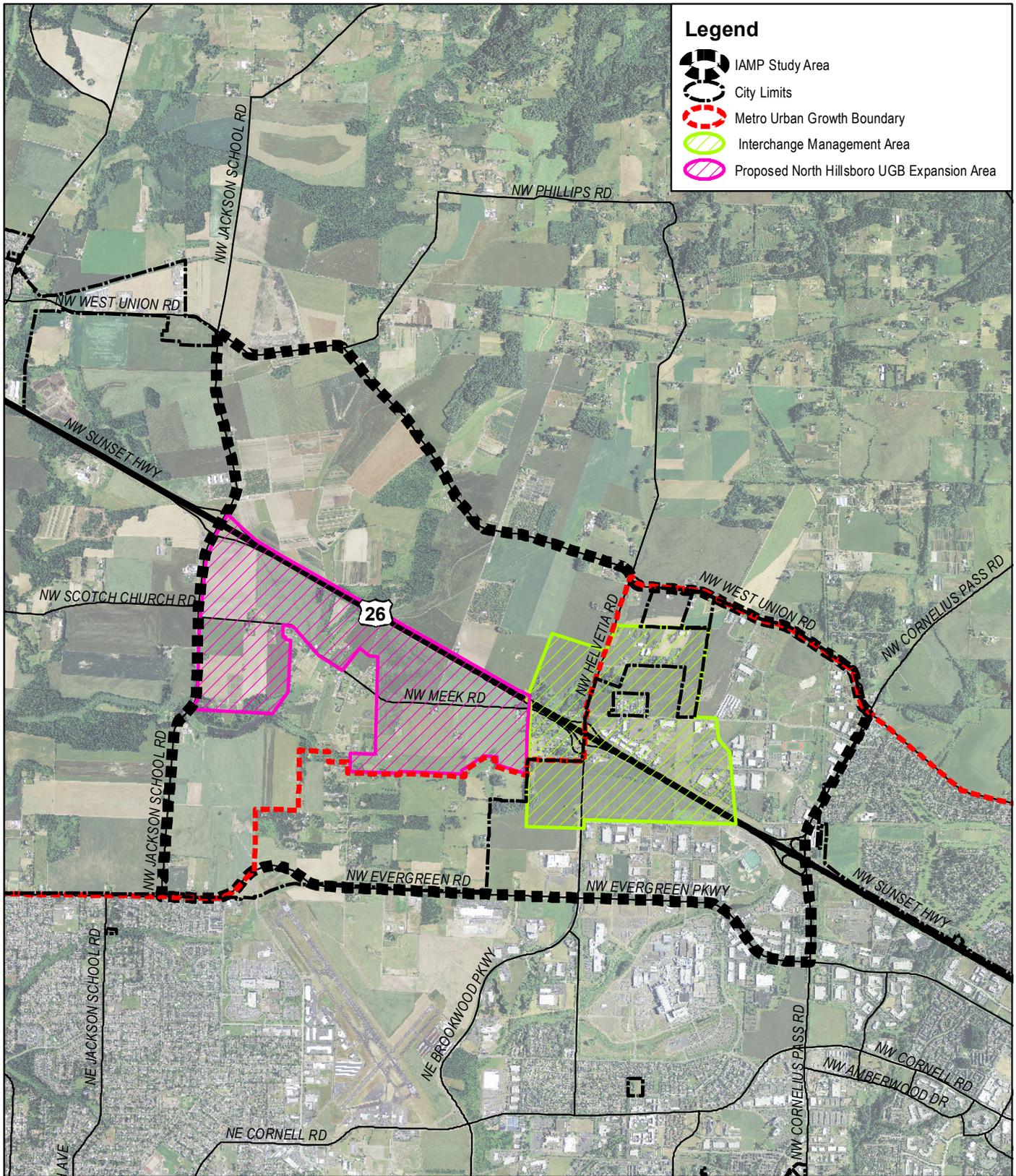
**Legend**

-  IAMP Study Area
-  Urban Growth Boundary (UGB)
-  City Limits
-  BPA Easement
-  North Eco-Industrial District
-  Potential UGB Expansion Areas
-  Hillsboro Enterprize Zone
-  Evergreen/Helvetia/Shute Road Concept Plan Areas
-  Urban Reserve Area
-  Undesignated Reserve Area



**Data Sources:**  
Metro RLIS GIS Data, 2010  
Oregon Imagery Explorer, 2009

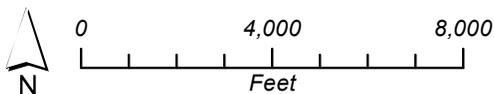




**Legend**

- IAMP Study Area
- City Limits
- Metro Urban Growth Boundary
- Interchange Management Area
- Proposed North Hillsboro UGB Expansion Area

**US 26/Brookwood Parkway/  
Helvetia Road IAMP**



**Data Sources:**  
 Metro RLIS GIS Data, 2011  
 Aerial Photograph:  
 Oregon Imagery Explorer, 2009



**Figure 4**  
 Aerial



character and conserve the natural resources while providing for rural residential use in areas so designated by the Comprehensive Plan. Zoning is consistent with these uses. Much of this area is also within a City of Hillsboro UGB expansion proposal, as referenced in Appendix A of Technical Memorandum #1. The majority of parcels in the area are privately owned by individuals or families. The remaining portion of the southwest quadrant of the Study Area within the UGB and Washington County jurisdiction (west of NW 253<sup>rd</sup>/NW Meier-Jurgen Road) has rural agricultural and residential uses. However, the area's comprehensive plan designation is Industrial and it is zoned Future Development (FD-20). It also is within the Evergreen Concept Plan Area to help provide industrial land supply and future employment growth. The intent of the FD-20 District is as follows:

*The FD-20 District applies to the unincorporated urban lands added to the urban growth boundary by Metro through a Major or Legislative Amendment process after 1998. The FD-20 District recognizes the desirability of encouraging and retaining limited interim uses until the urban comprehensive planning for future urban development of these areas is complete. The provisions of this District are also intended to implement the requirements of Metro's Urban Growth Management Functional Plan.*

Portland General Electric owns approximately 30 acres on two sites: One west of NW Sewell and one west of NW 253<sup>rd</sup>. The Port of Portland owns a small tract of land near NW 273<sup>rd</sup>.

The only parcels within Washington County jurisdiction east of the interchange and NW Helvetia are zoned FD-20.

### **City of Hillsboro—Northeast Quadrant**

The northeast quadrant of the Study Area between NW Jacobson and US 26 is mostly commercial/industrial uses. North of NW Jacobson is mostly agricultural uses and vacant land, with a mobile home park directly off of NW Jacobson. The rest of the northeastern section of the Study Area is a mix of rural agricultural and commercial/industrial uses, and has more developed and mostly commercial/industrial uses closer to NW Cornelius Pass Road. Liberty High School is off of NW Wagon Way and covers a large area that includes multiple sports fields.

Land use designations for the area are entirely industrial, with a band of floodplain designation for Waibel Creek. Zoning is also industrial based. However, the Helvetia area and most of the area along West Union has a Special Industrial District (SID) Overlay to "*protect and enhance development opportunities for industrial uses...*"

Parcels in the northeast section of the Study Area close to the interchange are mostly parcels between 1 acre and 8 acres owned by individuals, families, or LLCs, including investment LLCs. Of the three largest parcels in the area, the Bonneville Power Administration (BPA) owns one that is south of NW Jacobson, between NW Century Boulevard and NW Pinefarm Place (22.09 acres); the Development Services of America owns the other large parcel (30 acres) south of NW Publois and west and adjacent to NW Century Boulevard; and Weston Investment

Company LLC owns another just south of the Development Services of America parcel (16 acres). Parcels in the Study Area farther from the interchange are mostly commercially owned for industrial/commercial uses, except for one large parcel of private ownership along West Union close to NW Helvetia. The largest parcel owners in the area are Intel for its West Union Campus off of West Union Road and the Hillsboro School District for Liberty High School.

### ***City of Hillsboro—Southeast Quadrant***

The southeast corner of the Study Area adjacent to the interchange and north of NW Huffman is agricultural uses. The southeast Study Area beyond the agricultural area is mostly commercial/industrial uses south of NW Huffman and along NW 235<sup>th</sup> and NW Bennett east to NW Cornelius Pass road, and is interspersed with a few smaller, undeveloped parcels. Gordon Faber recreation complex occupies a large area east of NW Bennett and west of NW Cornelius Pass adjacent to US 26.

Comprehensive Plan Map Designations for the Study Area within City of Hillsboro jurisdiction are entirely Industrial, except for a band of area designated Floodplain from NW Century Drive under US 26 and then NW Brookwood just south of the interchange, and an area designated commercial off of NW Cornelius Pass. Zoning for the Study Area is consistent with the designations and is entirely Industrial Park (M-P), with a small area of Shute Road SID Overlay and an area of general commercial off of NW Cornelius Pass. The City of Hillsboro has also implemented a Significant Natural Resource Overlay to protect natural resources located along portions of the floodplains in the area. The Nike Foundation owns much of the land north of NW Huffman Road (approximately 75 acres), with one parcel owned by Ruth Berger between the Nike parcel and the interchange. Further from the interchange, the City of Hillsboro is the largest property owner for Gordon Faber Park. Other parcels are owned in support of the industrial uses and commercial and business parks.

### ***City of Hillsboro—Southwest Quadrant***

Land in the southwest quadrant is undeveloped and used for agricultural uses, except for the parcel owned by Genetech Incorporated, which is approximately 75 acres on the corner of NW Evergreen and NW Brookwood. This area is designated and zoned Industrial, with a Shute Road SID Overlay, and is within the Shute Road Concept Area.

### ***Community Features***

In the Study Area, community features are mostly found east of NW Brookwood Parkway:

- Chinese Evangelical Church in the northeast quadrant at 5529 NW Five Oaks Drive.
- Rice Northwest Museum of Rocks and Minerals in the northwest quadrant. The museum facility (Richard and Helen Rice Residence) is listed on the National Register of Historic Places. It is recognized for its unique architectural style, use of natural stone, and native Oregon woodwork.
- West Union Elementary School at the southwest corner of NW Helvetia Road and NW West Union Road.

- Liberty High School off of NW Wagon Way.
- Community of Christ Church in the northeast quadrant off of NW Five Oaks Drive.
- Oregon Department of Environmental Quality Sunset/Hillsboro Vehicle Emission Testing Station in the northeast quadrant off of NW Five Oaks Drive.
- The Gordon Faber Recreation Complex west of NW Cornelius Pass Road, off of NW Bennett Road. The complex is an athletic facility for softball, soccer, football, baseball, lacrosse, running, walking, and bicycling.

The Hillsboro Airport and Hillsboro Public Library are just south of the Study Area off of NW Brookwood Parkway.

### ***Right-of-Way***

BPA north-to-south transmission lines run through the northwest quadrant of the Study Area, then cross US 26 west of Gordon Faber Park, and run parallel and adjacent to US 26 to connect with the Keeler Substation just west of NW Cornelius Pass Road. East-to-west lines providing power to Tillamook and other Oregon coast communities run parallel to the north of NW Huffman Road in the Study Area.

### ***Canals and Culverts***

An existing culvert that carries Waibel Creek under NW Brookwood Parkway includes two 99-inch-diameter pipes. The North Hillsboro Industrial Strategy (March 2011) identifies these culverts as raising the flood level on the east side of NW Brookwood Parkway.

## **3. EXISTING TRANSPORTATION ANALYSIS**

The existing transportation analysis has not been completed for this project. This section describes the work that will be done and the information provided in this technical memorandum. The existing transportation analysis will provide Washington County/City of Hillsboro classifications, geometric conditions, and posted speeds for the roadway network in the Study Area. It will include Average Daily Traffic (ADT) volumes, PM peak hour intersections turning movement volumes and intersection operations at up to 38 intersections, and AM peak hour intersections turning movement volumes and intersection operations at up to 8 intersections.

### **Safety Summary**

This section will provide the three-year crash history for the state highways, and collector and arterial roads and ODOT Safety Priority Index System (SPIS) rating for state highway segments in order to evaluate safety concerns, identify crash patterns, compare crashes to statewide average crash rates, and suggest countermeasures.

### **Physical Features Summary**

Existing public and private approaches will be identified for the following roadways within the Study Area:

- NW Evergreen Road (north side)
- NE Brookwood Parkway
- NW Huffman Street
- NW Meek Road
- NW Groveland Drive
- NW Jacobson Road
- NW Schaff Road
- NW Helvetia Road
- NW Groveland Road
- NW Sewell Road
- NW West Union Road (south side)
- NW Jackson School Road (east side)
- NW Cornelius Pass Road (west side)

## Traffic Volumes

This section will summarize the traffic data collection, and identify any traffic count data inconsistencies and resolutions. It will include analysis of traffic count information, historical adjustments of traffic counts to the existing year, application of adjustment factors to account for seasonal variation, and developed volumes for the 30<sup>th</sup> highest hour and the ADT volume. Traffic count information will include vehicle classification shown as truck percentages for locations that used manual classification counts.

## Traffic Operations Analysis

This section will present existing conditions traffic operational analysis based on the 2000 Highway Capacity Manual (HCM) methodology for both intersections and freeway operations.

Current PM peak hour intersection operations at up to 38 intersections and AM peak hour intersection operations at up to 8 intersections will be analyzed using the traffic volumes calculated in the previous section. Traffic operations will be compared with OHP and Washington County volume-to-capacity (v/c) standards, and City of Hillsboro Level of Service (LOS) guidelines. ODOT Region 1 Traffic will specify inputs for lane capacity, signal timing, etc. ODOT's ADT-based preliminary signal warrants and the Manual on Uniform Traffic Control Devices (MUTCD Warrant 1) will be used to evaluate unsignalized intersections.

HCM Freeway facilities procedures will be used to evaluate the mainline US 26 freeway operations between the Jackson School Road interchange and the Cornelius Pass Road interchange, which includes the Brookwood interchange and the ramp merge, diverge, and weaving operations at all three interchanges in the AM peak hour and the PM peak hour.

As shown in Figure 5, the traffic analysis will be done for two areas:

The JTA Project area — The area immediately around the interchange is the JTA Project area. This is the area that the JTA-funded interchange improvements are anticipated to directly impact. The JTA Project area is bounded along Brookwood Parkway/Helvetia Road from Schaaf Road on the north and Huffman Street on the south.

The IAMP study area — The IAMP study area for the traffic analysis is a larger area than for the other disciplines. For the traffic work, the IAMP study area is assumed to encompass intersections and roadways that may be influenced by the interchange improvements and any potential changes to the local road system to serve the new interchange. The IAMP study area is bounded by West Union Road on the north, Cornelius Pass Road on the east, Evergreen Road on the south, and Jackson School Road on the west.

The traffic analysis of existing conditions will support the sensitivity analysis that will be performed for future UGB expansion and build-out.

#### **4. EXISTING NATURAL AND HISTORIC RESOURCES ANALYSIS**

Below is a summary of research that includes the mapped known environmental and historic resources. The information gathered was taken primarily from published documents and maps, agency websites, GIS data, and conversations with appropriate professional contacts.

##### **Floodplains and Floodways**

Acting through the local planning agencies, the Federal Emergency Management Agency (FEMA) regulates development within floodplains. FEMA-designated 100-year floodplains in the Study Area are displayed in Figure 6 (FEMA Flood Insurance Rate Map panel 4102380350B, September 30, 1982). Waibel Creek parallels NW Helvetia Road north of US 26 and crosses under US 26. One of its tributaries crosses from north of US 26 and flows west under NW Brookwood Parkway, north of NW Huffman. Both Waibel Creek and its tributary have 100-year floodplains. West of the interchange, Storey Creek runs north to south in the Study Area west of NW Groveland Road. Floodplains within the Study Area are designated Zone A, areas of 100-year flood, base flood elevations and flood hazard factors not determined.

##### **Goal 5 Resources**

Statewide Planning Goal 5 requires local jurisdictions to inventory natural resources such as riparian corridors and wildlife habitat. Metro-documented Goal 5 riparian corridors and upland wildlife habitat resources areas are shown in Table 2 and on Figure 7. The Study Area is in the Lower McKay Creek streamshed.

**Table 2. Goal 5 Riparian Corridors and Upland Wildlife Habitat Resources Areas**

Location	Classification	Classification Definition
Adjacent to Waibel Creek and its tributaries (close in to the interchange)	Riparian Wildlife Habitat Class I	Rivers, streams, stream-associated wetlands, undeveloped floodplains, forest canopy within 100 feet of a stream, and forest canopy within 200 feet of a stream with adjacent steep slopes (highest quality habitat)
Storey Creek and its tributaries (west of the interchange)	Riparian Wildlife Habitat Class I	Rivers, streams, stream-associated wetlands, undeveloped floodplains, forest canopy within 100 feet of a stream, and forest canopy within 200 feet of a stream with adjacent steep slopes (highest quality habitat)
Dawson Creek east of the interchange and a tributary of Glencoe Creek in the southern portion of the Study Area	Riparian Wildlife Habitat Class I	Rivers, streams, stream-associated wetlands, undeveloped floodplains, forest canopy within 100 feet of a stream, and forest canopy within 200 feet of a stream with adjacent steep slopes (highest quality habitat)
Adjacent to the creeks, mostly beyond the Class 1 Riparian areas	Class II riparian/wildlife corridors and Upland Habitat Class C	Rivers, streams, 50-foot area along developed streams, forest canopy, or low structure vegetation within 200 feet of streams, and portions of undeveloped floodplains extending beyond 300 feet of streams and forest patches and smaller connector patches along streams and rivers
South of US 26, south of NW Birch Avenue	Upland Wildlife Habitat Class B	Forest patches with low structure connector patches along streams and rivers
Along the eastern tributary of Storey Creek	Upland Wildlife Habitat Class B	Forest patches with low structure connector patches along streams and rivers
Near NW 273 <sup>rd</sup> and NW Sewell Roads	Upland Wildlife Habitat Class B	Forest patches with low structure connector patches along streams and rivers

:

## Wetlands

According to U.S. Fish and Wildlife Service National Wetlands Inventory data, one small area of palustrine wetland associated with the Waibel Creek tributary is located just south of where the tributary passes under US 26. Farther from the interchange, there are palustrine wetlands along Waibel and Storey Creeks south of US 26 and a small area along a tributary of Storey Creek north of US 26. Wetlands are displayed on Figure 6.

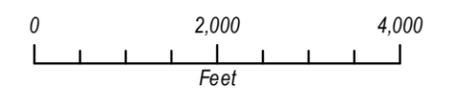
U.S. Department of Agriculture Natural Resources Conservation Service Soil Maps show hydric soils in the Study Area. Hydric soils indicate potential unmapped wetlands along and adjacent to Storey and Waibel Creeks and their tributaries, Dawson Creek and its tributaries in the eastern portion of the Study Area, and a tributary to Glencoe Creek in the southern portion of the Study Area along NW Evergreen.

**US 26/Brookwood Parkway/  
Helvetia Road IAMP**

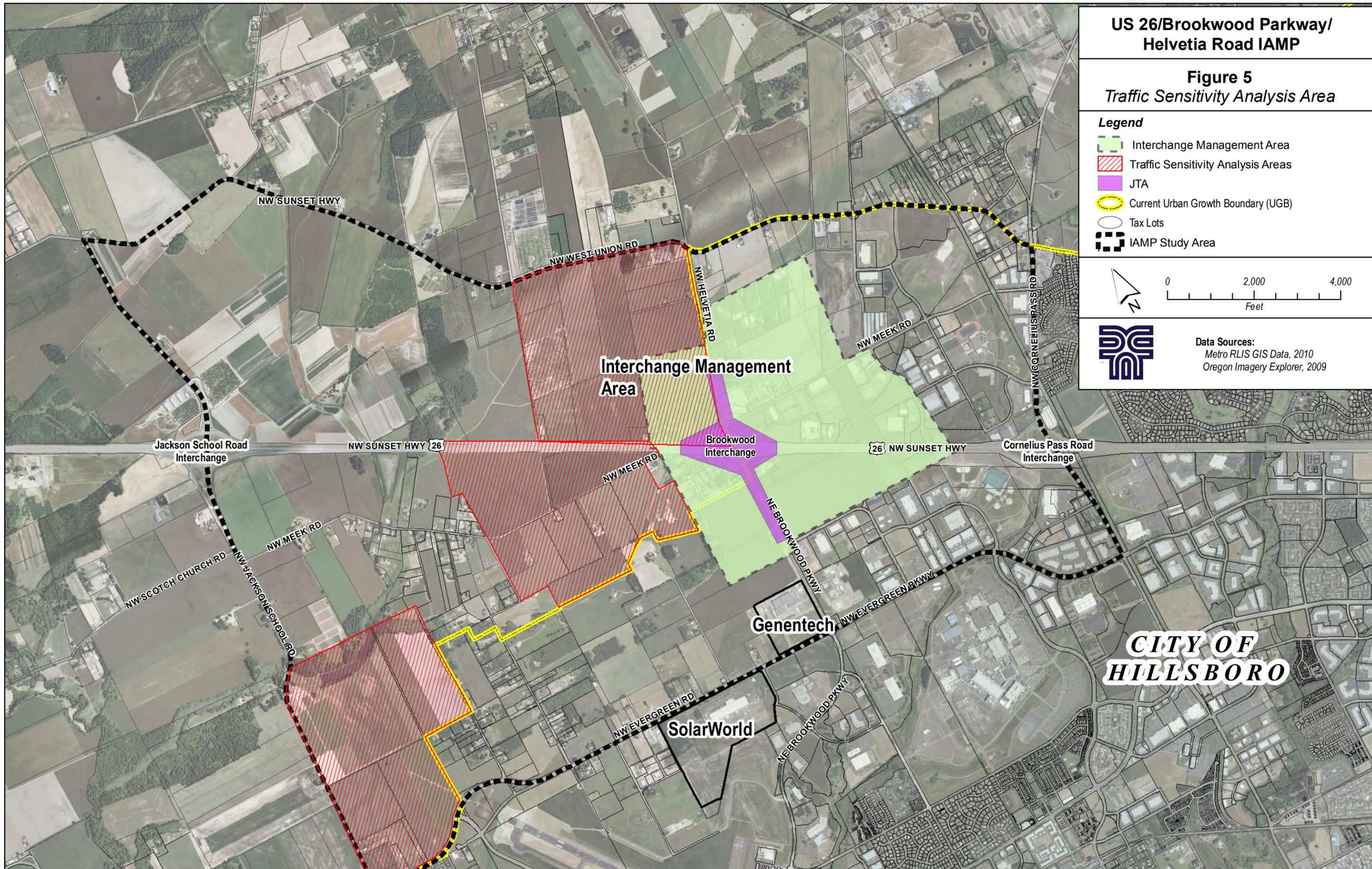
**Figure 5**  
**Traffic Sensitivity Analysis Area**

**Legend**

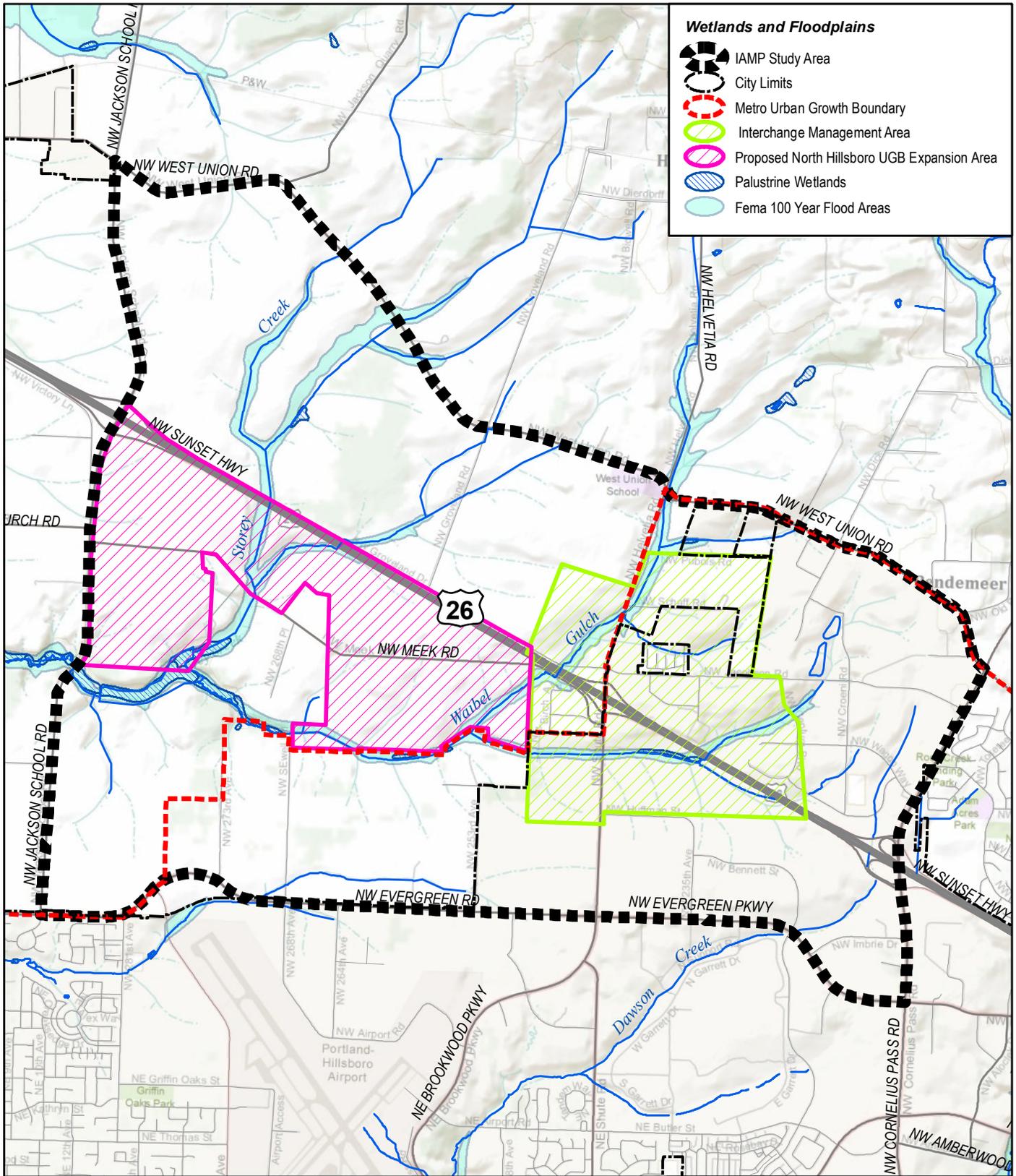
-  Interchange Management Area
-  Traffic Sensitivity Analysis Areas
-  JTA
-  Current Urban Growth Boundary (UGB)
-  Tax Lots
-  IAMP Study Area



**Data Sources:**  
Metro RLIS GIS Data, 2010  
Oregon Imagery Explorer, 2009







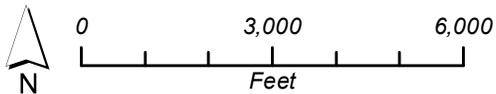
**Wetlands and Floodplains**

- IAMP Study Area
- City Limits
- Metro Urban Growth Boundary
- Interchange Management Area
- Proposed North Hillsboro UGB Expansion Area
- Palustrine Wetlands
- Fema 100 Year Flood Areas

**US 26/Brookwood Parkway/  
Helvetia Road IAMP**

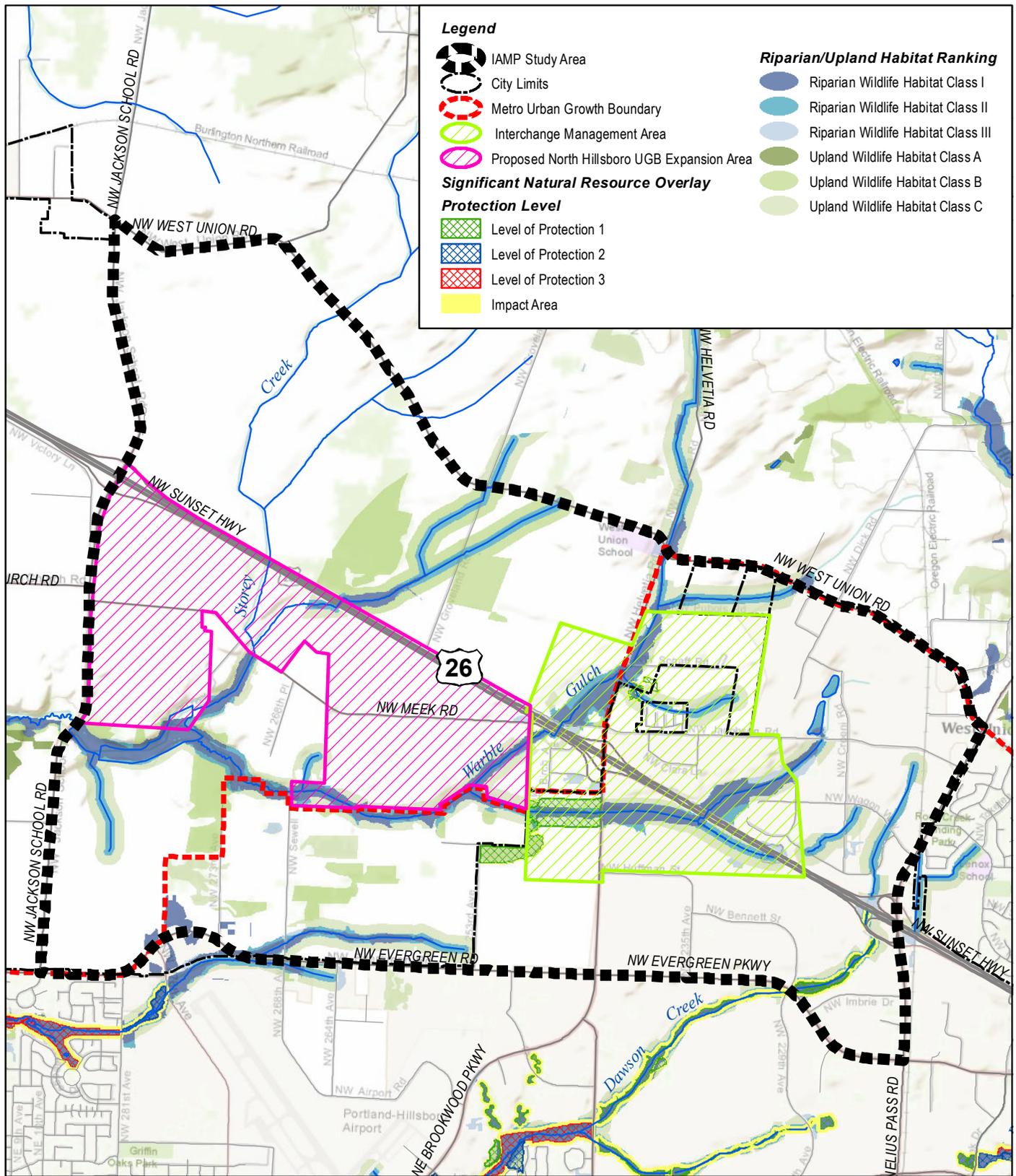


**Figure 6**  
Wetlands and  
Floodplains



Data Sources:  
Metro RLIS GIS Data, 2011

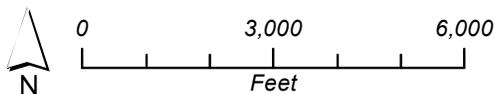




**US 26/ Brookwood Parkway/  
Helvetia Road IAMP**



**Figure 7**  
**Goal 5 Resources**



**Data Sources:**  
Metro RLIS GIS Data, 2011  
City of Hillsboro, Oregon, May 2010



## Threatened and Endangered Species

The Oregon Natural Heritage Information Center (ONHIC) database documents the federally listed and state listed threatened and endangered (T&E) species. These are species at some degree of risk of becoming extinct. The ONHIC information, based on reported historic sightings in the Study Area vicinity, is summarized in Table 3. Only one T&E species is identified in the Study Area. Steelhead is federally listed as a threatened species.

**Table 3. ONHIC-Identified Listed Threatened or Endangered Species**

Common Name	Scientific Name	Status		Location
		Federal	State	
Steelhead (Upper Willamette River Evolutionarily Significant Unit, winter run)	<i>Oncorhynchus mykiss</i> <i>pop. 33</i>	Listed Threatened	Sensitive-Vulnerable	Tualatin River and Tributaries (within Study Area)
Northern Pacific pond turtle	<i>Actinemys marmorata</i> <i>marmorata</i>	Species of Concern	Sensitive-Critical	Ponds at 307 <sup>th</sup> St. near intersection of US 26/Glencoe Rd. north at North Plains (outside Study Area)

A “threatened species” is one that is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. Once it is listed as threatened or endangered, a species is afforded the full range of protections available under the Endangered Species Act, including prohibitions on killing, harming or otherwise “taking” a species. “Species of Concern” is an informal term under the federal listing that is not specifically defined in the federal Endangered Species Act. The term commonly refers to species that are declining or appear to be in need of conservation.

Under Oregon’s Sensitive Species Rule (OAR 635-100-040), a “sensitive” species classification was created that focuses fish and wildlife management and research activities on species that need conservation attention. “Sensitive” refers to naturally reproducing fish and wildlife species, subspecies, or populations that are facing one or more threats to their populations and/or habitats. Implementation of appropriate conservation measures to address the threats may prevent them from declining to the point of qualifying for threatened or endangered status. Sensitive species are assigned one of two subcategories: critical or vulnerable. “Critical” sensitive species are imperiled with extirpation from a specific geographical area of the state because of small population sizes, habitat loss or degradation, and/or immediate threats. Critical sensitive species may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken. “Vulnerable” sensitive species are facing one or more threats to their populations and/or habitats. Although not currently imperiled with extirpation from a specific geographical area of the state, vulnerable species could, however, become so with continued or increased threats to populations and/or habitats.

## Hazardous Materials

Federal and state databases were searched for identified hazardous waste sites on April 5 and 6, 2011, for a radius of one mile from the approximate center of the US 26/Brookwood Parkway/Helvetia Road interchange (Leaking Underground Storage Tanks, or LUSTs, are identified within the Study Area or on adjacent properties).

Table 3 summarizes the databases searched and the total number of sites found. Background data files for each identified site are in Appendix A.

**Table 4. Federal and State Hazardous Material Databases**

Database	Description	Total Sites Found
<b>Federal</b>		
National Priority List (NPL)	List of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants	0
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	Abandoned hazardous waste sites—"Superfund"	0
Resource Conservation and Recovery Act (RCRA) Generators	Generate or store defined amount of hazardous waste in any one calendar month and are subject to regulatory control	10
Emergency Response Notification System (ERNS)	Releases or potential releases reported to the National Response Center, which acts as a reporting center for the EPA and U.S. Coast Guard	3
<b>State</b>		
Environmental Cleanup Site Information System (ECSIS)	Sites that may be contaminated or require cleanup	3
Oregon State Fire Marshal's (OSFM) Hazardous Materials Incidents	All hazardous material emergency incidents to which Fire Marshal Hazardous Materials Response Teams have responded	6
Oregon Permitted Solid Waste Landfills	Current active permitted facilities including landfills, waste tire storage sites, and household hazardous waste sites	0
DEQ Facility Profiler Leaking Underground Storage Tanks (LUSTs)	Known sites where leaks in buried tanks have been reported	8
Underground Storage Tanks (USTs)	Registration, installation, operation, and removal of USTs; cleanup of soil and groundwater contamination from petroleum leaks	0

Table 5 lists reported sites and incidents.

**Table 5. Hazardous Material Reported Sites and Incidents**

Site Name	Location	Effective Date/Incident Date	Generator Type/Status/Release Type
<b>RCRA</b>			
Shinei USA Inc	6220 NW Pinefarm Pl, Hillsboro	12/03/07	Conditionally Exempt Generator
Credence Systems Corporation	5975 NW Pinefarm Pl, Hillsboro	12/31/08	Conditionally Exempt Generator
Genentech Inc	4625 NW Brookwood Pkwy, Hillsboro	12/31/10	Small Quantity Generator
SGL Carbon Corporation	4860 NW Shute Rd, Hillsboro	01/15/03	Conditionally Exempt Generator
Mohr Solutions Power	23780 NW Huffman St, Door 112, Hillsboro		Treater, Storer, Disposer
Ohka America Inc	4600 NW Brookwood Pkwy, Hillsboro	12/31/10	Large Quantity Generator
Tokai Carbon USA Inc	4495 NW 235th Ave, Hillsboro	12/13/03	Conditionally Exempt Generator
AGPR, Inc.	4375 NW 235th Ave, Hillsboro	01/01/04	Conditionally Exempt Generator
Ashland Inc.	4605 NW 235th Ave, Hillsboro	12/31/07	Conditionally Exempt Generator
Intel Corporation Evergreen Campus	23225 NW Evergreen, Hillsboro	12/31/2006	Conditionally Exempt Generator
<b>ERNS</b>			
N/A	5775 NW Wagon Way	09/07/2004	Released hydraulic oil
N/A	23585 NW Jacobsen	06/14/2000	Released acid wash
N/A	25300 NW Evergreen Rd	01/14/1997	Released oil (misc: transformer)
<b>ECSIS</b>			
Westmark Center	NW West Union Rd & NW Jacobson Rd, Hillsboro (Township 1N, Range 2W, Section 21, Tax Lots: 1600, 2601, 2700, 2800, 2801, 2802, 2900, 3000, 3001, and 3002)	01/18/2004	Requires No Further Action
Baker Site	East of Helvetia, south of Schaff Rd, Hillsboro (Township 1N, Range 2W, Section Tax Lot 1500	02/10/2009	Requires No Further Action
Shute Road Property	Evergreen Pkwy and Shute Rd, Hillsboro (Township 1N, Range 2W, Section 21, Tax Lots: 1600, 2601, 2700, 2800, 2801, 2802, 2900, 3000, 3001, and 3002)	06/22/2005	Requires No Further Action
<b>OSFM</b>			
N/A	US 26 @ MP 61	09/16/1998	Released 30 gallons diesel

Site Name	Location	Effective Date/Incident Date	Generator Type/Status/Release Type
N/A	US 26 WB @ Shute Rd	04/17/1997	Released 135 gallons diesel
N/A	22800 NW Evergreen Rd	10/31/1988	Released 5 gallons unknown
N/A	24945 NW Evergreen Rd	01/09/1988	Released 30 gallons diesel
N/A	2501 NW 229 <sup>th</sup> Ave	11/18/1996	Released 2 cubic feet of acetic acid
N/A	7431 NE Evergreen Pkwy	04/16/1991	Released 15 gallons gasoline
<b>LUSTs</b>			
Standring Holdings LLC	5870 NW 242nd Ave, Hillsboro	03/18/2003	Cleanup Completed
Baxter, B	27700 NW Meek Rd, Hillsboro	3/9/2000	Cleanup Completed
Berger Farms	5888 NW Shute Rd, Hillsboro	N/A	Cleanup Started
Berger Farms	5870 NW 242 <sup>nd</sup> Ave, Hillsboro	11/19/2001	Cleanup Completed
Laas, Donnie	6140 NW Birch Ave, Hillsboro	09/12/2007	Cleanup Completed
Hagg, R	4825 NW 253rd Ave, Hillsboro	8/27/2004	Cleanup Completed
West Union Elementary School	23870 NW West Union Rd, Hillsboro	09/10/2001	Cleanup Completed
Severson Property	23265 NE Evergreen Pkwy	08/31/2000	Cleanup Completed

The identified sites and incidents have been remediated, are being monitored, have been investigated and found not to be contaminated to the point of needing further action, or are a permitted facility. The land within the Study Area has been previously disturbed by transportation uses that may include undocumented spills or an accumulation of many years of roadway runoff, has been historically disturbed by agricultural uses that may include the use of chemical pesticides, and contains industrial uses that generate hazardous materials, and there may be undocumented hazardous materials present.

### Historic and Archaeological Resources

This section summarizes the Oregon State Historic Preservation Office (SHPO) Oregon Historic Sites Database that documents National Register of Historic Places (NRHP) and locally identified historic, prehistoric, and cultural resources. The NRHP identifies and documents (in partnership with state, federal, and tribal preservation programs) districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. Copies of Oregon Historic Site Records for each site referenced below are in Appendix B. The following resources in the Study Area are in the SHPO database:

**Table 6. Oregon Historic Sites Database Results**

Resource Name	Address	Resource Type	Year Built
<b>Listed on the NRHP Register</b>			
Rice NW Museum of Rocks and Minerals (Richard and Helen Rice)	26385 NW Groveland Drive	Single dwelling, Ranch	1953
West Union Baptist Church	22365 NW West Union Road	Religious facility, vernacular	1853
<b>Eligible Contributing (potentially eligible for NRHP Register)</b>			
James & Mary Chambers House	24665 NW Groveland Drive	Single dwelling, vernacular	1865
T W & Lizzie Shute House & Barn*	4825 NW 253rd Ave	Single dwelling, Queen Anne	1890
Imbrie Farm Agricultural Outbuilding	21860 NW Imbrie Drive	Italianate	1866
Farmstead House and Outbuildings	9220 NW Jackson School Road	Victorian Eclectic	1890
<b>Resources in the database but unknown whether they are eligible for NRHP listing</b>			
Five Oaks Meeting Place	NW Casper Lane	Social	1830
Methodist Meeting House Site	east of 253rd Avenue	N/A	1843
Sewell Clay Works	Evergreen & Sewell Road	N/A	1880

\* Also designated an historic landmark by Washington County.

During the concept planning for the Evergreen, Shute, and Helvetia areas, additional resources other than those listed in the Oregon Historic Sites database were found. The Shute Road UGB Addition Concept Plan Cultural Resources Technical Memorandum (Archeological Northwest, Inc.) identified these additional locations within the Study Area that are of archaeological or historical interest:

- The area along the Waibel Creek channel is considered to have a moderate potential for prehistoric archaeological resources. The creek channel has been modified in this area but generally follows its natural course. Proximity to the creek enhances the likelihood of archaeological resources, but this location does not offer significantly higher ground adjacent to the water source. Therefore the location is considered to be a moderate-probability rather than a high-probability location. The archaeological sensitivity area is defined as extending 30 meters (100 feet) on each side of the present channel (total width of 60 meters).
- Artifacts and other archaeological deposits may be associated with the reported location of a late-nineteenth-century residence behind (west of) the modern Moore residence on NW Shute Road.
- The Voges home, a residence at the intersection of NW Shute Road and Meek Road, is thought to date to 1914 but is probably older. The home is listed in the Washington County Cultural Resource Inventory.
- The historic Reilly residence on NW Evergreen, which probably dates to the 1890s, is extant. The house and some of the associated farm buildings may be significant historic resources.

There may be additional historic and archaeological resources in the Study Area that have not been surveyed or evaluated for eligibility. Portions of the Study Area also consist of flat ground with water resources—the two main components that archaeologists look for to identify high probability locations for potential archeological sites.

### **Section 4(f) Resources**

Section 4(f) refers to a part of federal law (Title 23, USC, Section 138, Section 4(f) of the Department of Transportation Act of 1966, as amended) that protects public parks, recreation lands, wildlife and waterfowl refuges, and public or private historic sites. Section 4(f) applies only to Departments of Transportation and their agencies. Section 4(f) resource lands within the Study Area consist of the historic sites discussed previously in the section titled *Historic and Archaeological Resources* and the Gordon Faber Recreation Complex. In addition, structures eligible or potentially eligible for inclusion on the NRHP but not yet identified are potential candidates for Section 4(f) status.

A highway project is considered to “use” a public park when:

- Land is permanently incorporated into a transportation facility (actual conversion);
- There is a temporary occupancy of land that is adverse in terms of the statute’s preservationist purpose; or
- There is constructive use of the land.

Constructive use means off-site impacts of the transportation project substantially impair the site’s vital functions.

### **Section 6(f) Resources**

The Land and Water Conservation Fund (LWCF) Act of 1965 established grants-in-aid funding to assist states in the planning, acquisition, and development of outdoor recreational land and water areas and facilities. Section 6(f) of the LWCF Act prohibits the conversion of property acquired or developed with the assistance of the fund to anything other than public outdoor recreation use without the approval of the Secretary of the U.S. Department of the Interior. No Section 6(f) properties are located in the Study Area.