Boeckman Road Extension

Providing Safe Passage for Wildlife and Maintaining Habitat Connectivity

By

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Presentation Outline

- Introduction
- Background & Project Goals
- Environmental Conditions
- “Green Street” Design Elements
- Wildlife Passage Objectives & Features
- Wildlife Monitoring
Project Location
Project Summary

• Provide enhanced east-west connectivity between residential and employment areas in and around the northern portion of the City of Wilsonville (Villebois Project)
• Reduce traffic at Wilsonville Road and Elligsen Road
• 3 Lane road with sidewalks and bike lanes
• 2 Lane road across wetlands
• Constructed in two phases
Phase 1

Phase 2

Boeckman Road - Tooze Road Connector Project
Preferred Alternative
Figure 1
Villebois Project
Project Goals and Objectives

- Preserve natural resources, including the Coffee Lake wetlands complex.
- Provide a context-sensitive design (i.e. low impact development) that accounts for the existing natural resources and aesthetics, as well as the planned uses, of the area.
- Consider transit service in the development of improvement alternatives.
- Accommodate multiple modes of travel, including bicyclists and pedestrians.
- Consider how transportation improvements would affect and augment the Washington County Commuter Rail service and station site in Wilsonville.
Natural History and Environmental Conditions

- Tonquin Scablands – unique geologic features (e.g. basalt hummocks, “kolk” ponds, etc.) formed by the Missoula floods 17,000 to 12,000 years ago

- Coffee Lake wetlands and floodplain – scrub/shrub and emergent wetlands; peat soils; dominated by invasive species, such as reed canarygrass; wildlife habitat and corridor

- Coffee Lake Creek – tributary of Willamette River; fed by springs, seeps, and smaller tributaries

- Alteration of wetlands and floodplain – Seely ditch (1850s); other ditches and drain tile systems; cropped wetlands
Pre-Construction Photos (11/2006)
Coffee Lake Creek Wetlands & Flood of 1996
“Green Street” Elements

- Restore hydrology to wetlands
- Minimize impact to floodplain and Coffee Lake Creek
- Reduce impervious area (porous concrete sidewalks)
- Roadside bio-swales
Wetland Mitigation Site
Green Street Elements
Wildlife Passage
Wildlife Passage Objectives

- Maintain habitat connectivity
- Provide passage for a wide range of species
- Enhance habitat
- Monitoring and evaluation
Wildlife Crossings

- Amphibian/reptile wall and mammal fence
- Culvert crossings (12 total)
  - 9’ x 4’ box culverts (2)
  - 18” culverts (6)
  - 24” culverts (4)
  - All of the culverts are countersunk, contain natural material and include daylight inlets
- Bridge (400’ in length with a maximum clearance of 7.8’)

Wildlife Crossings
Amphibian/Reptile Wall
Bridge
Are Animals Using Passage Structures/Fencing as Designed?

- Passages will be monitored using:
  - Motion detection cameras
  - Tracking (sand)
  - Pitfall traps
- Roadkill surveys
- Direct Observations
Are the Numbers of Animals Using Passage Structures Representative?

- Transects at 25m & 100m parallel to the road
  - Cameras & sand tracking
  - Pitfall trap arrays
  - Grids of small rodent live traps
Do Light & Vegetation Influence Species Use of Passage?

• Light levels within passage
  – Addition of artificial light
  – Blocking natural light

• Vegetation
  – Vegetation Site Assessment Seasonally
Do Correlations Exist between Passage Use and Habitat Conditions?

- Traffic volume
- Within Passage:
  - Temperature
  - Humidity
  - Vibration
  - Airflow
  - Standing water
  - Erosion or Sediment Deposition
Data Collection

- Sand track data from the bridge, 9x4, 24” & 18”
- Motion detect photos from the bridge and both 9x4’s
Preliminary Results

Sand Track Data as of 10/14/08:

- Bird: 232 events
- Mammal: 77 events
- Amphibian: 61 events
- Human: 19 events
- Reptile: 5 events
- Unknown: 10 events

Vertebrate Group
Questions?
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