MEMORANDUM

DATE: March 23, 2007

TO: Bryan Brown, City of West Linn
OR 43 Conceptual Design Plan Project Management Team
OR 43 Conceptual Design Plan Technical Advisory Committee

FROM: Matthew Arnold & Michelle Marx, SERA Architects
Kirstin Greene & Teak Wall, Cogan Owens Cogan

RE: ***OR 43 Opportunities & Constraints***

The following memorandum summarizes Opportunities and Constraints for Oregon Highway 43 through the City of West Linn. In doing so, it draws upon the findings presented in Technical Memorandum #1 (*Transportation Existing and 2030 Base Future Conditions*) and the series of Base Maps produced for Task 2.1. It also draws upon the Robinwood Neighborhood Plan, the Bolton Neighborhood Plan, the City of West Linn's Community Development Code, and information gathered at the Project Kick-Off Meeting (2/5/07).

The general topics or categories covered in this memo include:

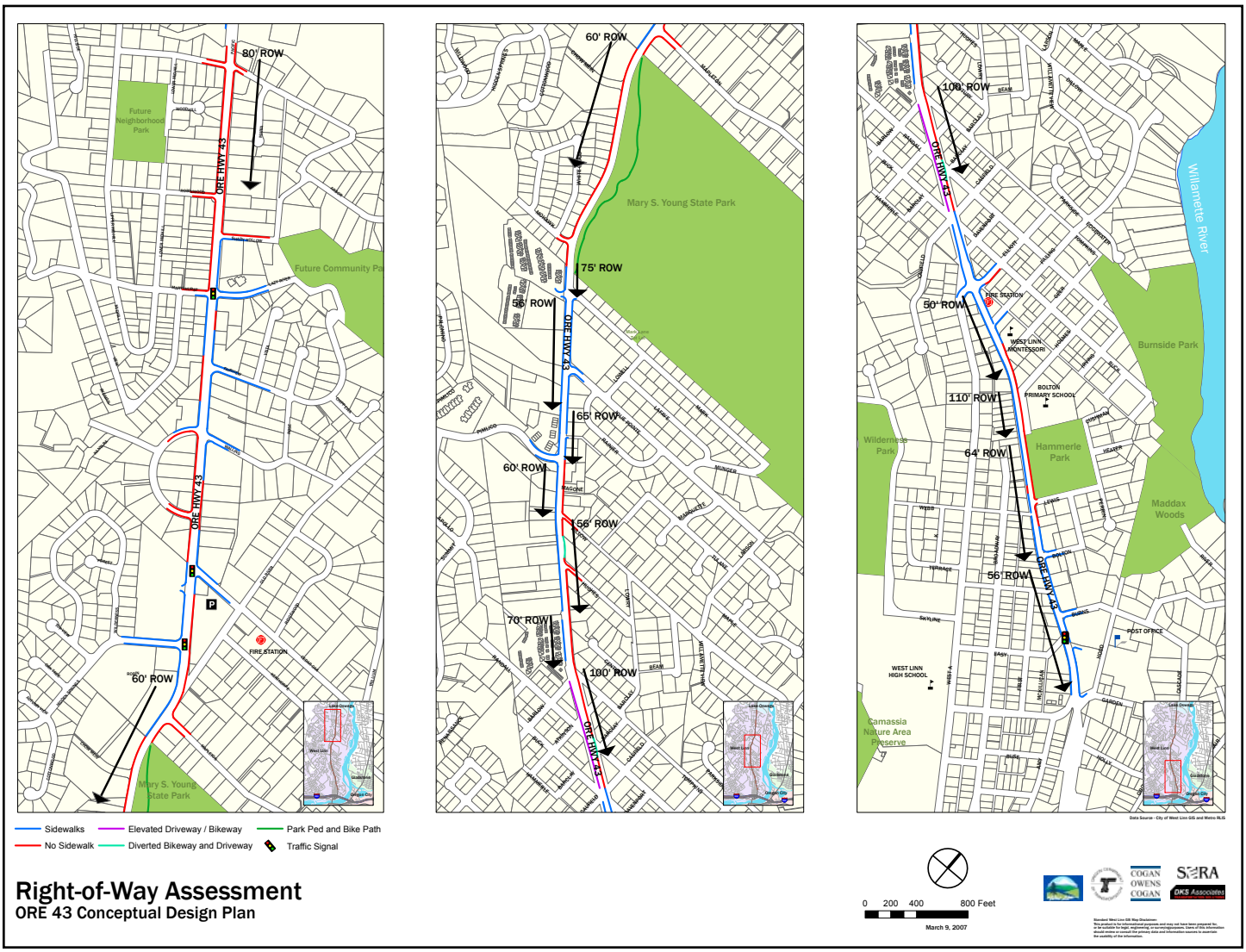
- **Right-of-Way** – including a discussion of the wide range of ROW widths along the corridor, the difficulties with future ROW allocations, and the potential for employing access management strategies;
- **The Pedestrian Realm** – including an analysis of issues related to pedestrian access, connectivity, safety, and comfort;
- **Transit** – issues related to bus stops and transit access;
- **Bicycle Access** – opportunities to improve conditions for cyclists of varying levels of ability;
- **Environmental Considerations** – opportunities and constraints related to topography, waterways, existing trees, and stormwater management;
- **Existing Land Use** – issues related to current land uses and the potential for providing transportation facilities that are better suited to serve them;
- **Development Code** – examination of commercial design and development standards and their effects on the multi-modal potential along OR 43.
- **Proposed Robinwood Overlay Zone** – examination of the proposed overlay zone for the Robinwood Neighborhood.

This work, in part, will form the basis for the conceptual design plan and inform the public workshops.

Thank you for your review.

Right-of-Way

The available right-of-way along the OR 43 corridor varies significantly within the study area. At its widest, the right-of-way measures approximately 110 feet across, but is only 50 feet at its most narrow. This tremendous variation has and will continue to constrain streetscape design options in certain areas. There will be an on-going need to closely examine the various trade-offs implicit in allocating right-of-way (ROW).



Right-of-Way Assessment
ORE 43 Conceptual Design Plan

Examples of existing cross sections along OR 43 - based on available width, adjacent land uses, and transportation demands

In general, intersections are areas that have the most demands put upon them - to balance out through traffic, turning movements, pedestrian and bike access, transit, stormwater management, etc. In some cases along OR 43, there may be a need to acquire additional right-of-way at key intersections to accommodate these various demands.

The OR 43/Arbor intersection is currently experiencing difficulties; existing ROW may allow for left turn lanes onto Arbor, but volumes do not warrant a signal to help traffic turning onto OR 43

As reported in Tech Memo #1, the signalized intersections along OR 43 generally function within acceptable limits today. Four of these intersections (OR 43 and Marylhurst/Lazy River, Cedar Oak, Hidden Springs, and Hood/McKillican) are expected to become deficient by 2030 based on Metro's travel demand forecast model. Two non-signalized intersections (OR 43/Pimlico and OR 43/Arbor) are currently experiencing difficulties for those motorists turning onto OR 43. There are also noticeable difficulties for drivers making left turns onto OR 43 from side streets that intersect the highway at less than a 90-degree angle - a situation which is often exacerbated by the change in grade as one approaches the highway. Although no improvements have been proposed for any of these locations and situations as part of this project, it should be noted that there will be increasing demand to provide for a variety of users (pedestrian, bicycle, stormwater, transit, autos, etc.) within limited rights-of-way.

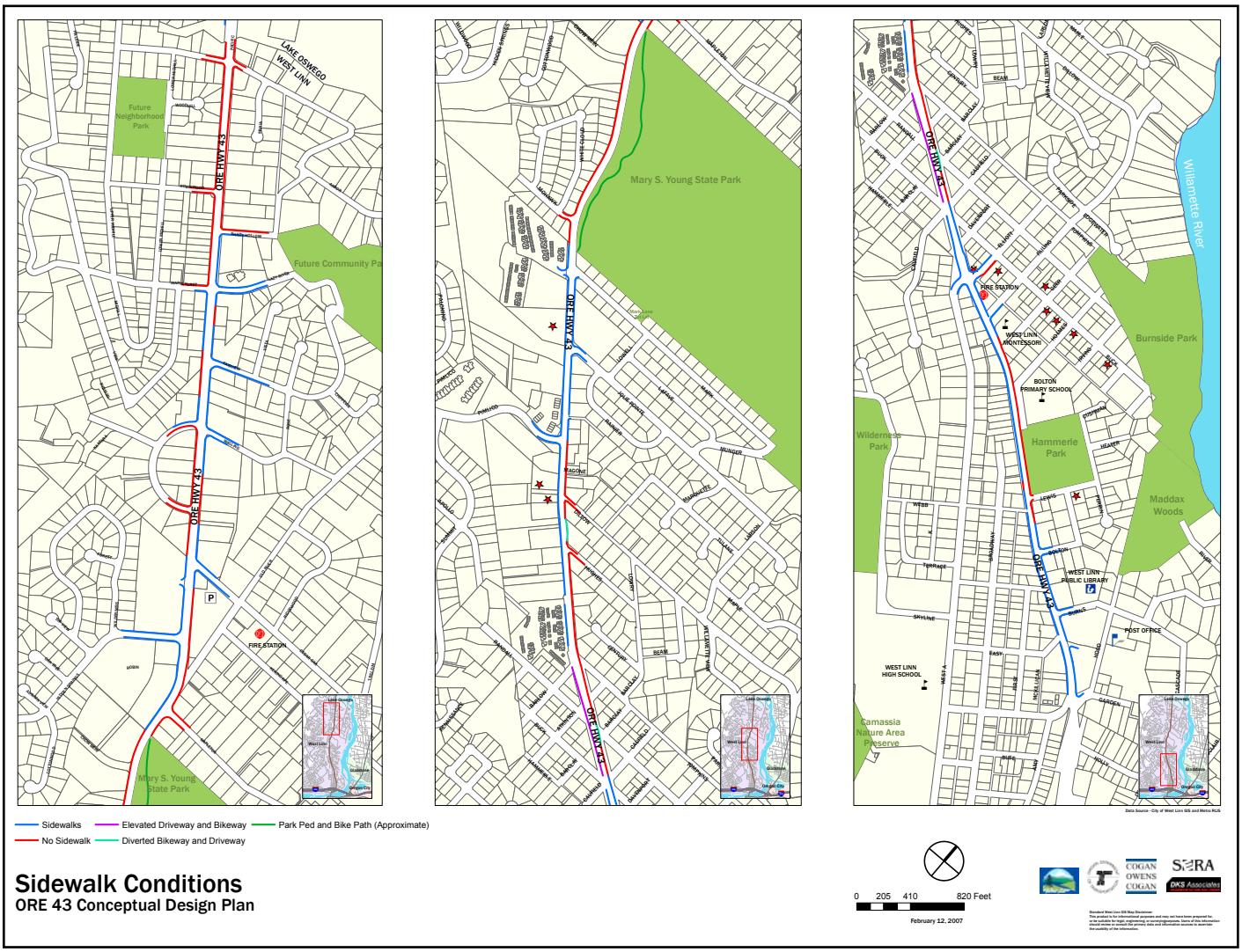

This curb/median prevents left turning movements to/from this shopping center driveway; shoppers instead must use the left turn lane and signal at the Hidden Springs intersection

Despite fairly heavy traffic volumes (approximately 21,000 vehicles per day) and the need to move traffic through West Linn along OR 43, very few access management / channelization techniques have yet been employed. There are only two medians (and one is only a narrow extended curb) in the study area limiting left turn movements (see photos). In commercial areas, where ROW allows, there are opportunities to utilize medians to improve traffic flow, provide safer pedestrian crossings, and potentially beautify the streetscape. Consolidating commercial driveways is another access management strategy that can focus turning movements and thus improve traffic flow. (Existing driveway spacings are generally too close to meet ODOT highway standards.) However, the City's development code generally requires driveway access to individual taxlots. While the code does allow for some exceptions to this rule, additional modifications may be necessary before enough driveway consolidation can occur.

This substantial median prevents left turning movements to/from the Central Village Development; patrons are thus directed to the signalized intersection at Hood/McKillican

The Pedestrian Realm

The vision statement of the Robinwood Neighborhood Plan calls for curbs and sidewalks along OR 43, while the Bolton Neighborhood Plan calls for “a sidewalk and pathway system that allows all to walk safely to the Library, schools, stores, and parks….” The map below illustrates that sidewalks along OR 43 are sporadic in many areas, and are altogether absent in others. Sidewalks may exist on one side of the street but not the other, and in the residential areas to the north, they are lacking on both sides of the street. The Robinwood commercial area provides sidewalks on both sides of the street, but these sidewalks are fragmented, often leaving a pedestrian with no option but to walk on the roadway. It should also be noted that where auto access has been closed from OR 43 to intersecting residential streets, it is especially important to ensure reliable pedestrian access.



Examples of fragmented and missing sidewalks along OR 43

Where sidewalks do exist, they are often narrow (sometimes only 3' to 4' wide), making it difficult for two people to walk abreast. Sidewalks occasionally contain obstacles such as telephone or light poles, rendering them impassable to citizens in wheelchairs, people on crutches, or children on bicycles who may not feel safe riding on the roadway. More common are the driveways - which bring pedestrians into direct conflict with motor vehicles.

Sidewalks throughout the study area are "curb-tight," meaning that in most instances there is no buffering between pedestrians and the roadway. Planting strips and/or furnishing zones (in commercial areas) located between the pedestrian way and the street could help not only to visually enhance the streetscape, but also to shield the pedestrian from fast-moving traffic - thereby improving the perceived safety of the sidewalk. These extra amenities could also make walking along OR 43 more attractive by providing shade, visual interest, pedestrian-scale lighting, and the occasional bench for taking a break.

As summarized in Tech Memo #1, there is currently very little pedestrian traffic along OR 43. That few users of the roadway are walking may be attributed to the lack of sidewalks, the quality and/or fragmented nature of the sidewalks that are available, the relatively low-density of nearby development, and the auto-oriented nature of much of that development. Should these various factors improve, one would expect the number of pedestrians to increase.

Interestingly, such a situation may also lead to additional pedestrian-auto conflicts, which are relatively rare under current conditions. Specifically, there are only a handful of signalized intersections within the 2.8-mile study area, meaning that those pedestrians that choose to cross without benefit of a signal will compete with the approximately 21,000 vehicles per day that use the highway. Therefore, opportunities should be explored to provide pedestrian refuge islands, pedestrian-activated signals, and other crossing treatments where full signals are not warranted.

There may also be opportunities to improve the corridor's existing pedestrian crossings by employing a variety of paving treatments at crosswalks to increase visibility, improving lighting, and installing pedestrian refuge islands and/or curb extensions where crossing distances are excessively wide.

This image contains a particularly ironic example - a light pole (with pedestrian crossing button) that blocks access to a crosswalk curb ramp

Curb-tight sidewalk

Wide Pedestrian Crossing

Sidewalks are sometimes non-existent near popular destinations - such as schools and parks

While pedestrian safety and access are or primary importance, aesthetic conditions also greatly influence a street's pedestrian appeal. Currently, utility lines and poles line both sides of the highway. Burying these utilities could create a more visually appealing environment. However, undergrounding utility lines is often prohibitively expensive, and all or most of that cost would likely lie with the City. Additionally, private property and/or business owners along the corridor would bear the cost of hooking up to these new utility lines.

Above-ground utility lines along OR 43

Trees are a defining feature of the OR 43 corridor, and the City currently maintains an ordinance aimed at preserving and protecting trees on private property (enforced during site development through design review). The City also requires trees / vegetation on private property along the right-of-way when trees are not provided in a planting strip. There may be opportunities to provide more street trees in commercial areas (where sidewalks are currently curb-tight) and to protect existing trees within the right-of-way when future improvements are made.

Street trees also serve to enhance the aesthetic appeal of the streetscape. However, existing ODOT criteria regarding roadside trees will necessarily guide street tree placement within the conceptual design plan. Currently, ODOT permits trees along highways when the highway design speed is 45 mph or less. Trees may be located in a planter strip between the curb and sidewalk only where posted speed is 35 mph or less and there is a standard shoulder or on-street parking. Where posted speeds are higher than 35 mph, or the shoulder is substandard (or there is no on-street parking), ODOT requires that trees be located at least 6 feet back from the curb. Additionally, roadside trees must be set back from driveways and intersections to maintain visibility. However, access management practices may help to increase the overall area available for trees.

Trees, often of substantial size, form a defining characteristic of the OR 43 highway alignment

Transit

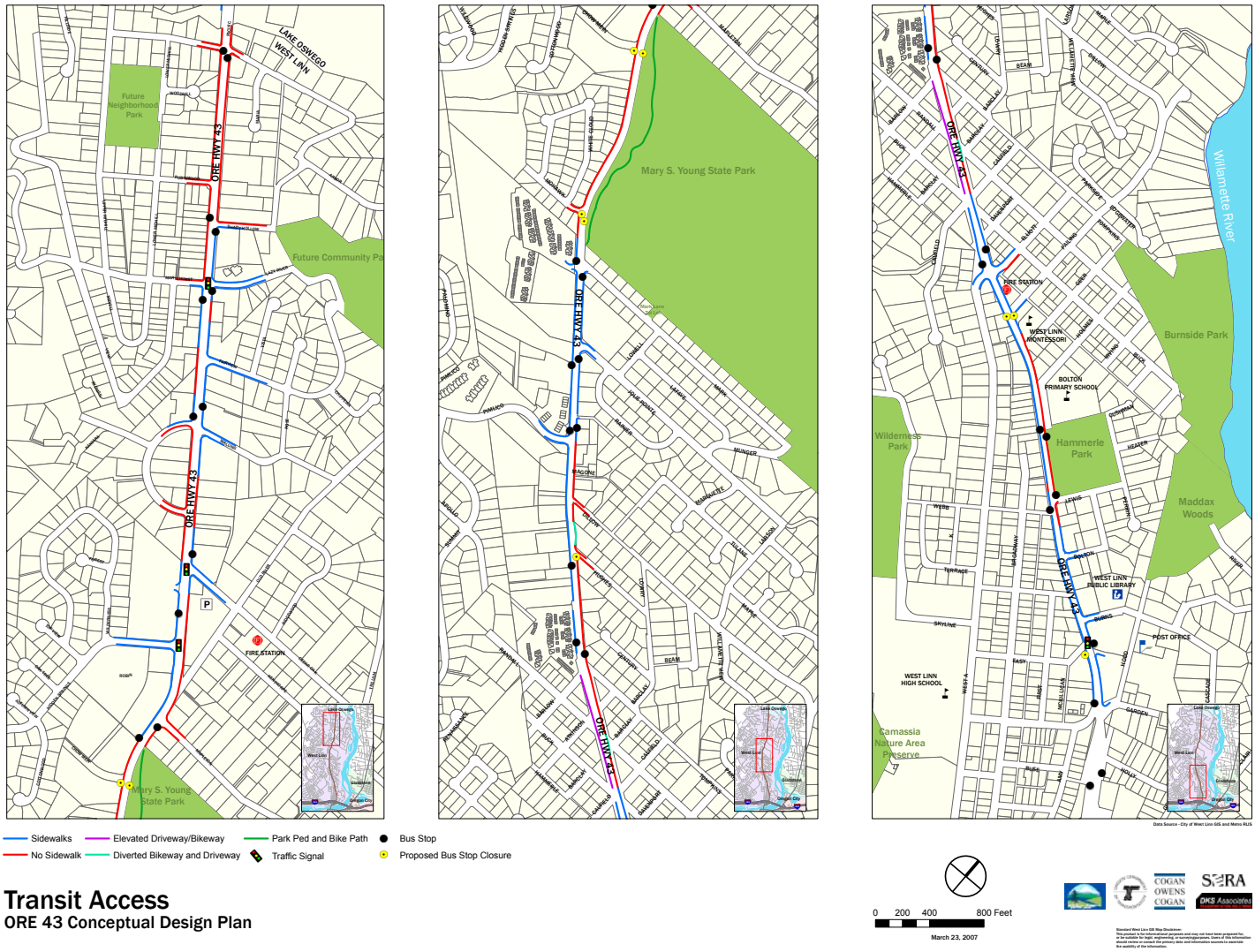
TriMet operates the #35 bus line through West Linn along OR 43, and the corridor contains several bus stops. There are currently 37 bus stops. As reported in Tech Memo #1, TriMet is considering abandoning eight of these stops due to a lack of ridership. While the OR 43 corridor through West Linn contains a healthy number of residences and general commercial uses, overall density is relatively low and there are no major employment centers. Therefore transit functions primarily as a commuting option, and as a transportation option for those relatively few for whom other options are not available or desirable.

Benches are found at some bus stops (above), but not others (below)

However, it must be noted that transit stops - and the connections to them - could be greatly improved along the highway. Several stops have sidewalk approaches from only a single direction, while others lack sidewalks entirely. Completing sidewalk connections to transit stops will be crucial to ensure that transit riders can make their connections safely and comfortably. Improving pedestrian connections throughout the corridor also may help to increase ridership, which may in turn introduce the possibility of reinstating closed bus stops in the future.

While some stops do provide benches, most do not, and only one stop within the study length provides a bus shelter (the northbound one at the southern end). Opportunities exist, therefore, to provide significant transit amenities (including shelters, benches, trash cans, etc.) for bus stops along the corridor. (Note: most bus stops along the alignment do not meet TriMet ridership quotas for shelters, so negotiations and/or additional funding may be necessary if additional shelters are desired.)

Some bus stops have no sidewalks connecting to them whatsoever



Transit Access

ORE 43 Conceptual Design Plan

Bicycle Access

Although bike counts are very low along OR 43 (see Tech Memo #1), bicycle travel facilities are provided on both sides of the highway throughout the corridor - either as striped bike lanes, shoulders, or shared bike / parking lanes. While basic facilities are provided, there are several opportunities to improve conditions for cyclists along OR 43. For example, there is an opportunity to attract more cyclists, especially those that might be intimidated by riding on a state highway that carries 21,000 vehicles per day.

Bicycles and parked cars share, and sometimes compete, for the same shoulder

Where parallel on-street parking is provided, the parking zone and the bike zone intermingle, and autos often infringe upon the bike lane. In fact, in some areas, a shoulder is only wide enough for a parked car, which forces bikes out into the travel lane. Providing adequate width for bikes and, where necessary, parked cars, and laying down additional striping to further define the bike lane from the parking area, may help to limit confusion and conflict. It is also be important to prevent bike lanes from being too wide. Bike lanes wider than six feet are often confused for narrow travel lanes or turn lanes, and drivers may take advantage of wide bike lanes for passing or making right turns.

Some areas are wide enough to accommodate parked cars or bikes - but not both

Bike lanes / shoulders are often littered with debris - mostly sand and gravel - that is uncomfortable for cyclists and potentially hazardous. Regular sweeping could help improve this condition. Where bikes use the road shoulder, and where sidewalks are not present, they are forced to dodge trash and recycling containers, which are left out in this zone.

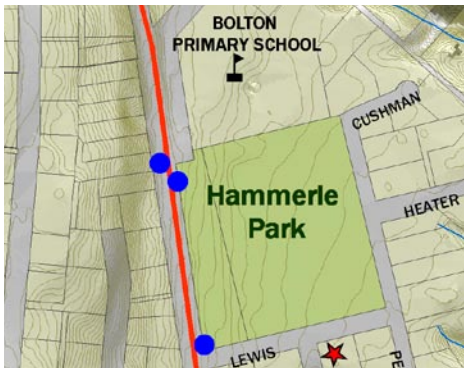
Continuous, grade-separated sidewalks and/or shared off-street paths that can be used by both cyclists and pedestrians provide opportunities for bicyclists who may not be comfortable riding in traffic. Neighbors have voiced support for off-street trails, in particular, where possible.

Obstructions in the bike lane make cycling difficult

Lastly, few bike racks are provided at commercial developments along the corridor, meaning that locking bicycles at destinations is difficult at best.

Environmental Considerations

The highway lies at the foot of a significant slope to the northeast, and the resulting variations in topographic conditions along the length of the corridor presents significant constraints in the middle and southern portions of the study area. Where steep slopes are present immediately adjacent to one or both sides of the highway, choices for right-of-way allocation will be quite limited.



Steep slopes adjacent to and within the right-of-way sometimes limit the ability to expand existing facilities or provide new ones

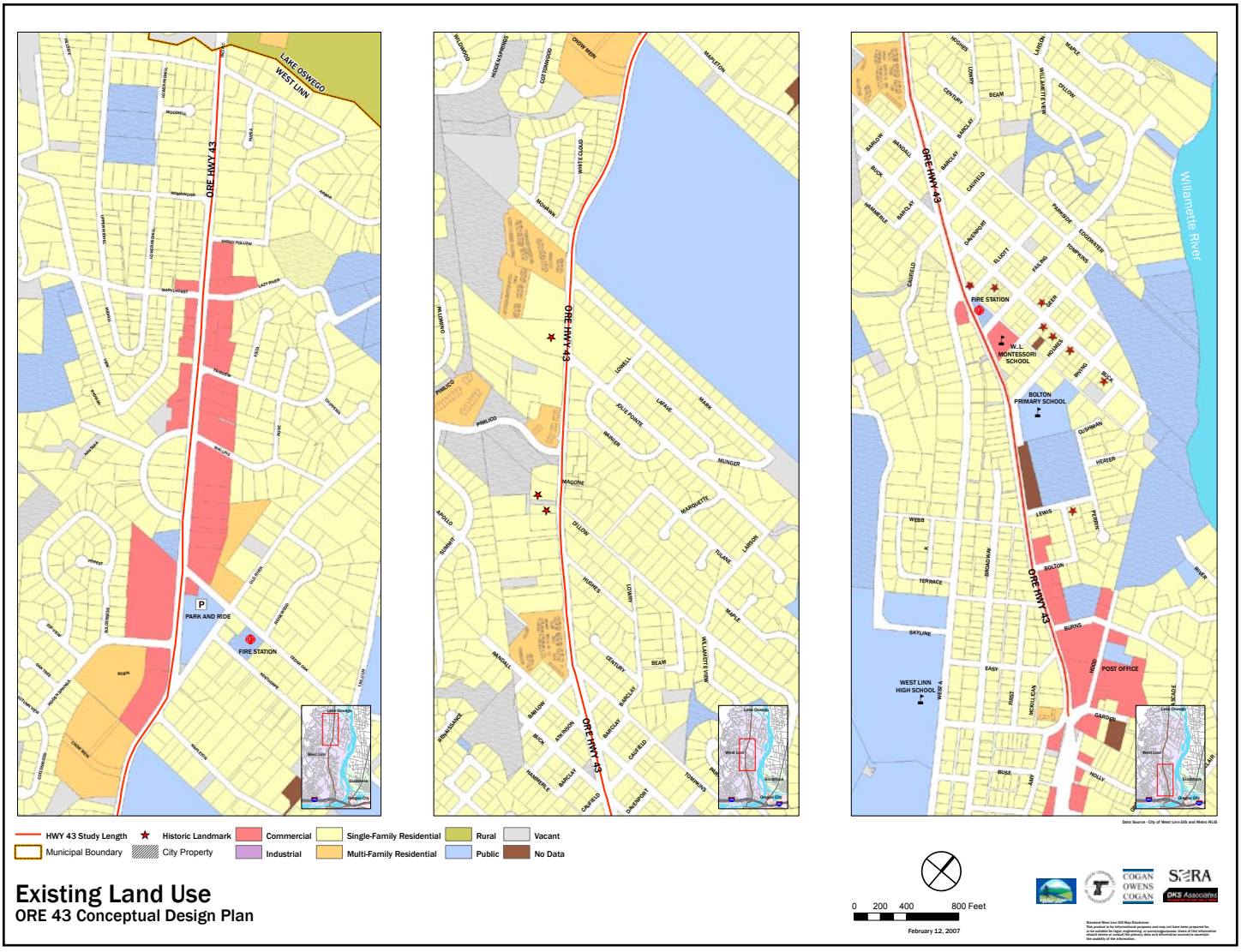
According to Metro GIS data, OR 43 crosses nine streams within the study area. It will be of great importance that these water courses be protected from polluting run-off with any modifications that are made within the highway right-of-way. In more developed areas of the corridor, stormwater run-off is currently channeled with curbs to storm drains. In less intense residential areas at the northernmost portion of the study length, stormwater is allowed to collect in ditches at the side of the roadway (a situation which the Robinwood Neighborhood Plan calls for correcting). Given the steep slopes in portions of the study area, run-off during the rainiest times can be quite heavy. There are significant opportunities to introduce sustainable stormwater practices along OR 43, which could help to protect water quality and provide visual (green) amenities along the corridor.

Stormwater is currently directed into traditional sewer systems or drainage ditches; instituting green / sustainable stormwater management practices can help protect the various waterways that cross beneath OR 43 in West Linn

Land Use

The OR 43 Conceptual Design Plan study area extends approximately 2.8 miles along OR 43 from the West Linn / Lake Oswego municipal boundary, southeast to the intersection with Hood Street. The corridor passes through areas with distinctly different land uses. The northernmost section of the corridor is less-intensely developed with residential homes (primarily single family). Two higher-density, commercial nodes occur along the corridor - one within the Robinwood neighborhood, and the other within the Bolton neighborhood. Between these two commercial areas lies Mary S. Young State Park - a significant community and regional asset - as well as a mix of single-family and multi-family residential uses. There are also four historic properties located along the OR 43 right-of-way.

This continuous shift in land uses and character along the corridor suggests a need to customize the streetscape in differing ways to meet the unique demands of various uses and densities. For example, higher-density commercial nodes suggest a need for wider sidewalks, on-street parking, and access management features. (It must be noted, however, that new on-street parking facilities seem may not be permitted, given ODOT highway standards and right-of-way constraints.) These is also an opportunity to better connect these commercial areas to nearby residences, many of which are not served by sidewalks currently. Less foot traffic and on-street parking demand in predominantly residential areas may allow for narrower sidewalks.



Existing Land Use
ORE 43 Conceptual Design Plan

Community Development Code

This section examines the City of West Linn's Community Development Code as it pertains to commercial zones along the OR 43 study area. It is intended to provide an understanding of how existing design and development standards for commercial zones may impact the OR 43 streetscape. This section also identifies potential modifications to existing standards that may improve the function of the corridor according to project objectives.

While the design and development standards make some provisions for other users, they tend to promote auto-oriented rather than multi-modal development – and indeed this is reflected in the existing conditions along OR 43.

Setbacks

Building commercial uses close to the street creates a "street wall," which encloses the right-of-way and gives definition to the pedestrian environment. While there is currently no minimum setback requirement for development within the General Commercial (GC) and Office-Business Commercial (OBC) zones, there is a maximum setback for both zones is 25 feet (Chapters 19, 21) – a distance which is too great to create an inviting sense of enclosure for pedestrians.

Clear vision areas on corner lots increase visibility for pedestrians, allowing them to see approaching vehicles on intersecting right-of-ways. For structures located on the corner, there is currently a 4 foot requirement for pedestrian clearance areas along sidewalks (Chapter 54). These clearance areas should be maintained.

Off-Street Parking and Loading

The Development Code currently allows surface parking to be located between the building and the street, provided that parking lots do not occupy more than 50% of the lot frontage (46.150). The city should consider requiring that all surface parking along OR 43 be located to the side or rear of commercial buildings, and that buildings be brought up closer to the sidewalk. Additionally, parking should be screened with vegetation to soften its visual impact.

Currently, owners of two or more structures or parcels may agree to share parking and/or loading spaces (46.050). This stipulation allows for an overall reduction in the amount of parking needed within the study area. The City should encourage utilizing this provision for joined/shared parking where possible in order to consolidate access, thereby improving safety and mobility along the corridor. The City may also consider reducing minimum parking requirements as a means of reducing the overall amount of land dedicated to surface parking.

Current code allows existing developments along transit streets or near transit stops to redevelop up to 10 percent of existing parking spaces to provide transit-oriented facilities, including bus pullouts, bus stops and shelters, park and ride stations, and other similar facilities (46.090). The City should consider offering reduced parking requirements as an incentive for such transit improvements made in off-street parking areas.

Access, Egress, and Circulation

All lots are required to have access from a public street or from a private platted street (48.020). However, owners of two or more structures or parcels may agree to utilize jointly the same access and egress when certain conditions are met (48.060). Because reducing the number of curb cuts along the street dramatically increases safety for pedestrians and bicyclists (as well as increasing traffic flow), the City should consider further incentivizing shared driveway access.

Additionally, the Code establishes a maximum curb cut of 40 feet along OR 43, and sets a minimum distance of 150 feet between any two curb cuts on the same side of the street (48.060). As stated above, curb cuts and driveways create points of conflict between cars and pedestrians and/or bikes. Reducing the number and width of curb cuts greatly improves safety for these groups. The City may consider re-evaluating both of these requirements.

Landscaping

When parking, loading, or service areas abut a street, these areas are required to be set back from the right-of-way by a perimeter landscaping strip of at least 10 feet (54.020). Along the OR 43 frontage, it is recommended that parking not be allowed to locate between the building and the street.

The Development Code currently requires that all proposed changes in width in a public street ROW or any proposed improvement shall, where feasible, include allowances for planting strips (54.030). Planting strips separate the pedestrian from traffic, and improve the perceived safety of the sidewalk, and should be incorporated into the streetscape whenever possible. Additionally, however, the City may consider requiring that trees be planted in the front/setback area where street trees are not feasible.

The Code also requires that a site inventory be conducted, and that every reasonable attempt be made to preserve and protect existing trees and significant landscaping (54.020). The City may also consider updating the Code to reflect the new City's new tree preservation ordinance (Ord. 1542).

Right-of-Way Width, Block Length, and Intersections

The Code stipulates that Highway 43 maintain a right-of-way between 60 and 80 feet (85.200.B). Minimizing travel lane widths slows the speed of traffic, and increases safety for pedestrians and bikes. Particularly in areas where pedestrian traffic is higher (such as commercial zones), this relationship should be considered, and the City may consider minimizing travel lane widths and or speed limits in these areas.

Minimizing block lengths and decreasing distance between intersections is crucial to creating a multi-modal (i.e. walkable) environment. The code recommends that blocks be 400 feet in length, and that blocks not exceed 800 feet in length (85.200.B). The City should encourage the 400-foot block to the greatest extent possible within pedestrian-oriented commercial districts. Additionally, the Code establishes the minimum distance between intersections on arterial streets as 500 feet (85.200.B). This standard should also be maintained.

Proposed Robinwood Overlay Zone

In August 2003 the Robinwood Neighborhood Association completed and presented to City Council the Robinwood Neighborhood Vision, and in March 2005, a neighborhood association subcommittee began developing implementation measures for the land use action items included in that document. The result of that process is the proposed Robinwood Neighborhood Overlay Zone, which provides additional land use regulations and development standards to be overlaid on the neighborhood's existing R-15, R-10, and GC zones. This section examines how these proposed regulations might relate to the OR 43 Conceptual Streetscape Design process. Of particular interest are the recommended changes to the General Commercial zone along the Hwy 43 corridor - includeing permitting residential mixed-use by right in the GC zone, prohibiting certain auto-oriented uses along the corridor, limiting building height, prohibiting certain building materials, and regulating parking lot design.

The proposed overlay recommends adding residential/commercial mixed-use buildings as a permitted use in the GC zone - allowing residential uses on upper floors or a portion of the ground floor of commercial buildings along the OR 43 corridor. Increasing residential uses within the Robinwood GC node would place greater demand on the area's pedestrian infrastructure, and would place greater priority on improving pedestrian accessibility and comfort in these areas.

Additionally, in an attempt to create a more pedestrian-oriented environment along OR 43, the proposed overlay also recommends prohibiting certain auto-oriented and heavy commercial uses in the GC zone. Suggested prohibited uses include automotive repair, light and heavy equipment repair, sales or rentals of light or heavy equipment, storage of recreation vehicles and boats, construction sales and services, light industrial manufacturing or finishing of products, wholesale storage and distribution, mini-warehouses, super stores, self service storage, and household hazardous waste depots. The Neighborhood argues that such uses are in conflict with their stated desire to create a pedestrian-oriented commercial street along OR 43. Limiting these auto-oriented uses would maximize any pedestrian improvements made as part of the streetscape plan, and would create a more visually appealing corridor overall.

The proposed overlay also recommends limiting building height along the corridor. The GC zone currently permits 2.5 stories or 35' in building height for any structure within 50 feet of a low- or medium-density residential zone, and 3.5 stories or 45' for any structure located 50' or more from a low- or medium-density zone. The proposed overlay, however, recommends limiting building height to 2.5 stories (or 35'), whichever is less, as measured from the grade in the center of Highway 43 to the nearest lot line of the subject parcel. Measuring building height from the centerline of the street (rather than from the base of the building) takes the area's slope into account, and prevents upslope commercial buildings from towering over downslope buildings and blocking downslope residential views. This may also create a more symmetrical building face along the corridor, preventing the appearance of greater bulk on one side of the street than the other. However, while 35' may be an appropriate building height for most commercial buildings, a maximum building height of 35' may limit residential mixed-use building opportunities along the corridor.

The proposed overlay seeks to improve the overall architectural quality of new buildings along the corridor by amending existing design review standards to encourage the use of "long-lasting" building materials such as cast stone, terra cotta, and wood. It also recommends prohibiting certain building materials such as T1-11, plain concrete or concrete block, corrugated metal, full sheet plywood, sheet pressboard, synthetic stucco, and pre-fabricated tilt-up concrete, except as a secondary finish for up to 10% of the façade surface area. Encouraging more "timeless" building materials could have a positive visual impact along the corridor, which can help to create a more pleasing environment for pedestrians.

Finally, the proposed Robinwood Neighborhood Overlay Zone suggests limiting on-site parking lots to one side of an access driveway, and prohibiting double-loaded parking lots for any new permitted or conditional use. Limiting surface parking lot frontage and overall surface parking lot area can increase a street's pedestrian appeal by decreasing breaks in the street wall. However, the overlay's recommended approach does not address parking lot location or overall off-street parking requirements, which may be more important in mitigating the visual impact of surface parking than parking lot design alone. For example, the overlay recommends that parking lots be limited to one side of an access drive only, but does not address whether that parking lot may be at the side of a building or in front of a building. To the greatest extent possible, parking should be minimized between the building and the street. Additionally, the overlay recommends prohibiting double-loaded parking lots, but does not address overall off-street parking requirements. For many developments (especially those with substantial parking requirements), single-loaded parking lots may not be a viable option. However, minimizing the visual impact of surface parking by requiring that it be located to the side or rear of the building - or through heavy landscaping - can have a substantial positive impact on the quality of the pedestrian environment.