

Jackson East Project
Transportation Infrastructure Report

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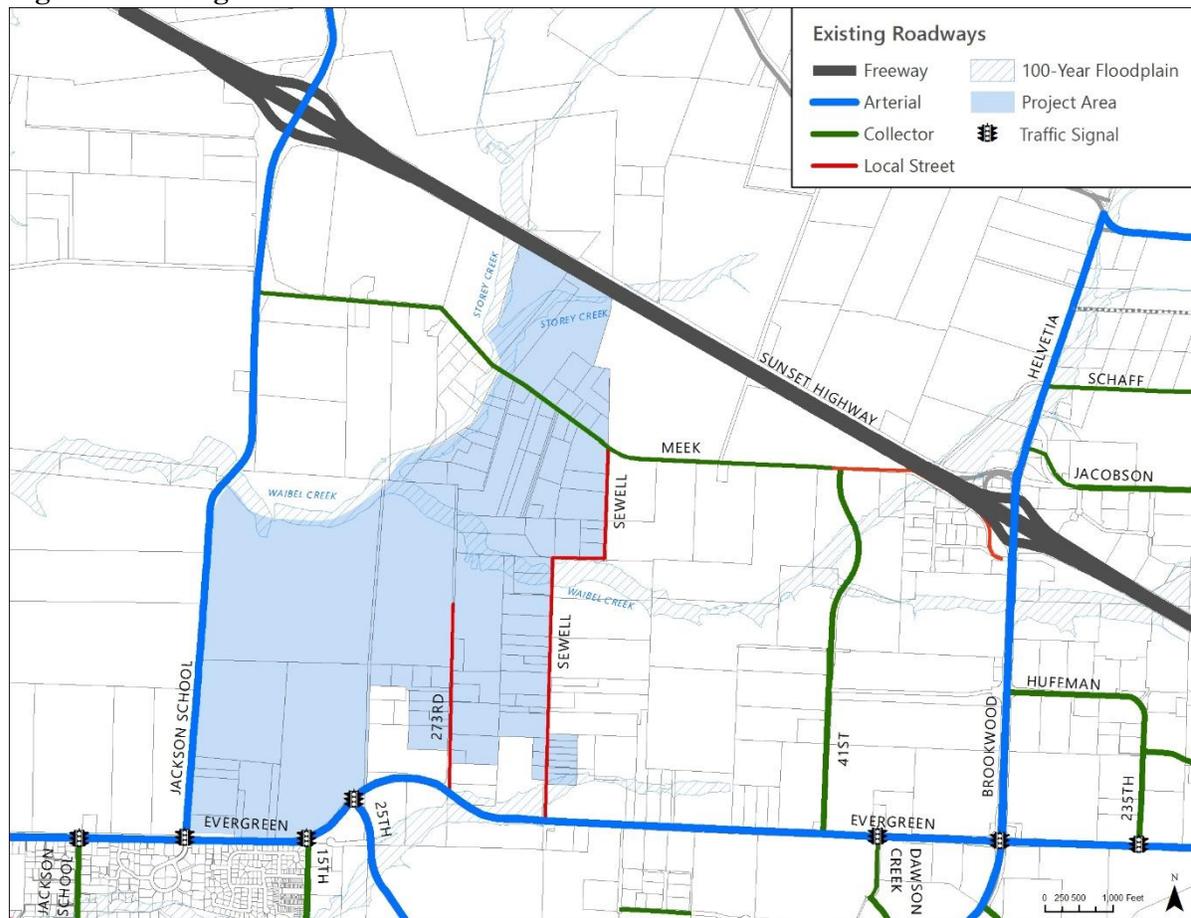
I. Introduction

The Jackson East project area includes 545-acres brought into the Urban Growth Boundary (UGB) as a result of House Bill 4078, and 125-acres of adjacent rural-residential land along NE Sewell Avenue brought into the UGB in 2005. The project area, outside Hillsboro city limits is bordered on the north by U.S. Highway 26; on the south by NW Evergreen Road; on the east generally by NE Sewell Avenue; and on the west by NW Jackson School Road and Waibel and Storey Creeks. The North Hillsboro Industrial Renewal Area (IRA) is located to the east of the project area. This background report will focus on the transportation infrastructure existing conditions, a review of planned transportation improvements, preliminary transportation infrastructure, estimated infrastructure costs, and next steps.

II. Existing Conditions

The current uses within the Jackson East project area are primarily agricultural and rural residential. The following describes the existing roadway facilities within and adjacent to the project area. Existing roads in the vicinity of the project area are shown in Figure 1.

Figure 1. Existing roads



Source: City of Hillsboro, Metro RLIS, and Washington County GIS data

Local Roads

Existing local roadways within the Jackson East area include two local rural roads: NW 273rd Avenue, and NE Sewell Avenue that jogs north of Waibel Creek to NW Meek Road. Note that there is an unimproved local road, referred to as NW 278th Avenue, to the west of NW 273rd Avenue. The project area north of Waibel Creek also has multiple shared private local roads serving residential properties.

Collector Roads

The northern portion of the project area is bisected by NW Meek Road, an existing rural collector street. In addition, NE 15th Avenue is an urban collector that intersects NW Evergreen Road immediately south of the project area; this is a signalized intersection. NE Jackson School Road, an urban collector south of NW Evergreen Road, is just over a quarter mile from the intersection of NW Evergreen Road and NW Jackson School Road. NE 41st Avenue (formerly NW 253rd Avenue), a new urban collector street between NW Evergreen Road and NW Meek Road, is nearly complete. Once complete, the connection from NW Meek Road to NW Brookwood Parkway will be closed.

Arterial Roads

The area is bounded by two arterial roads: NW Jackson School Road to the west and NW Evergreen Road to the south. NW Jackson School Road is a two-lane rural road. In the vicinity of the Jackson East project area, NW Evergreen Road is a five-lane road that transitions to a three-lane road west of NE 15th Avenue. This section of NW Evergreen Road has bike lanes and curbs. There is a sidewalk on the south side of the road. The intersection of NW Evergreen Road and NW Jackson School Road is signalized and includes left and right turn lanes. NE 25th Avenue is an arterial road that intersects NW Evergreen Road; this is also a signalized intersection. NW Brookwood Parkway is located approximately 1.5 miles east of the project area.

Freeway

US Highway 26 borders the project area to the north. Access to the highway is available from NW Jackson School Road, approximately one mile north of Waibel Creek. Freeway access is also available at NW Brookwood Parkway, approximately two miles northeast of the project area. Between NW Jackson School Road and NW Brookwood Parkway, US Highway 26 is a divided highway with two lanes in each direction.

Transit

TriMet's Bus 46-North Hillsboro has stops on the north and south side of NW Evergreen Road between NE 15th Avenue and NW Jackson Schools Road and another pair of stops on NW Evergreen Road just west of NW Jackson School Road. Bus 46-North Hillsboro, provides weekday standard service between Hillsboro Transit Center, Fair Complex/Hillsboro Airport MAX Station, and Hillsboro Library, along 1st, Glencoe, Evergreen, 15th, Griffin Oaks, 25th, Cornell, 34th, Brookwood and Dawson Creek. In November 2015, Ride Connection launched the North Hillsboro Link, a "no fare required", third party operated shuttle serving businesses in growing North Hillsboro with frequent stops in Orenco Station. As of January, 2016 the service averaged 91 rides per day and is expected to grow rapidly as more development continues in the

area. The North Hillsboro Link currently provides service on NW Brookwood Parkway, approximately 1.5 miles east of the Jackson East project area.

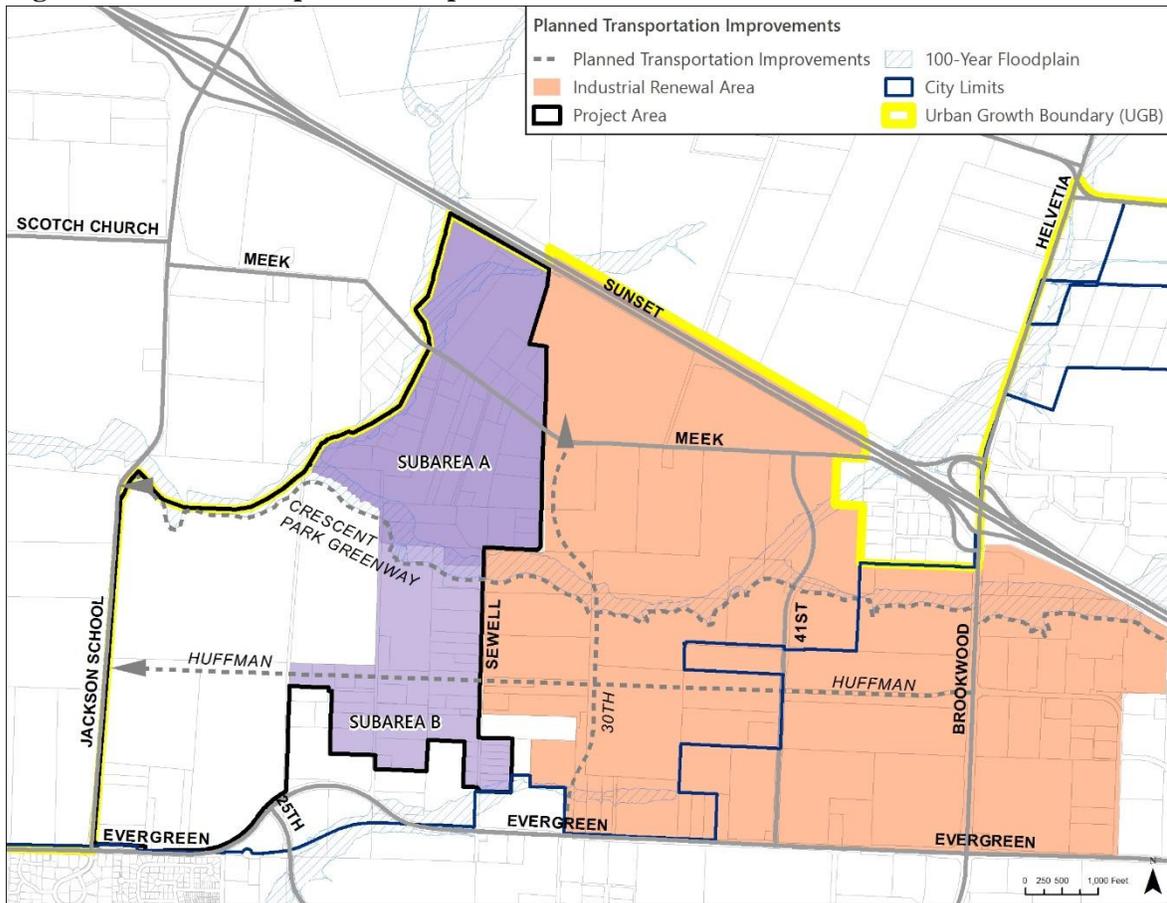
Proximity to the Hillsboro Airport

The Hillsboro Airport, the second busiest general aviation airport in Oregon, is located south of the project area, opposite NW Evergreen Road. The runway protection zone extends north of NW Evergreen Road and over Port of Portland-owned properties in the project areas. One restriction of the runway protection zone is that new roadways cannot be constructed within this zone.

III. Review of Planned Transportation Improvements

Several street improvements are planned in and around the Jackson East project area based on the Transportation System Plan (TSP) and the planned development of the North Hillsboro Industrial Renewal Area. See Figure 2.

Figure 2. Planned transportation improvements



Source: City of Hillsboro, Metro RLIS, and Washington County GIS data

The City of Hillsboro Transportation System Plan (TSP) includes roadway, bicycle, and pedestrian improvements. The planned projects in and around the Jackson East project area include the extension of NW Huffman Street from NW Brookwood Parkway west to NE Sewell Avenue, the addition of sidewalks to NW Evergreen Road, and the addition of bicycle lanes on NE Sewell Avenue. At full build-out, NW Huffman Street is planned to be a five-lane

roadway with bike lanes and sidewalks. Development of a portion of the NW Huffman Street extension from NW Brookwood Parkway to NE 41st Avenue will be completed over the next several years, with a subsequent extension to NE Sewell Avenue. The extension of NW Huffman Street from NE Sewell Avenue across the project area to NW Jackson School Road is not expected to be built until paid for by project area industrial development. In addition, urban renewal funds will be used to construct NE 30th Avenue, a new urban collector street between NW Evergreen Road and NW Meek Road to the west of NE 41st Avenue.

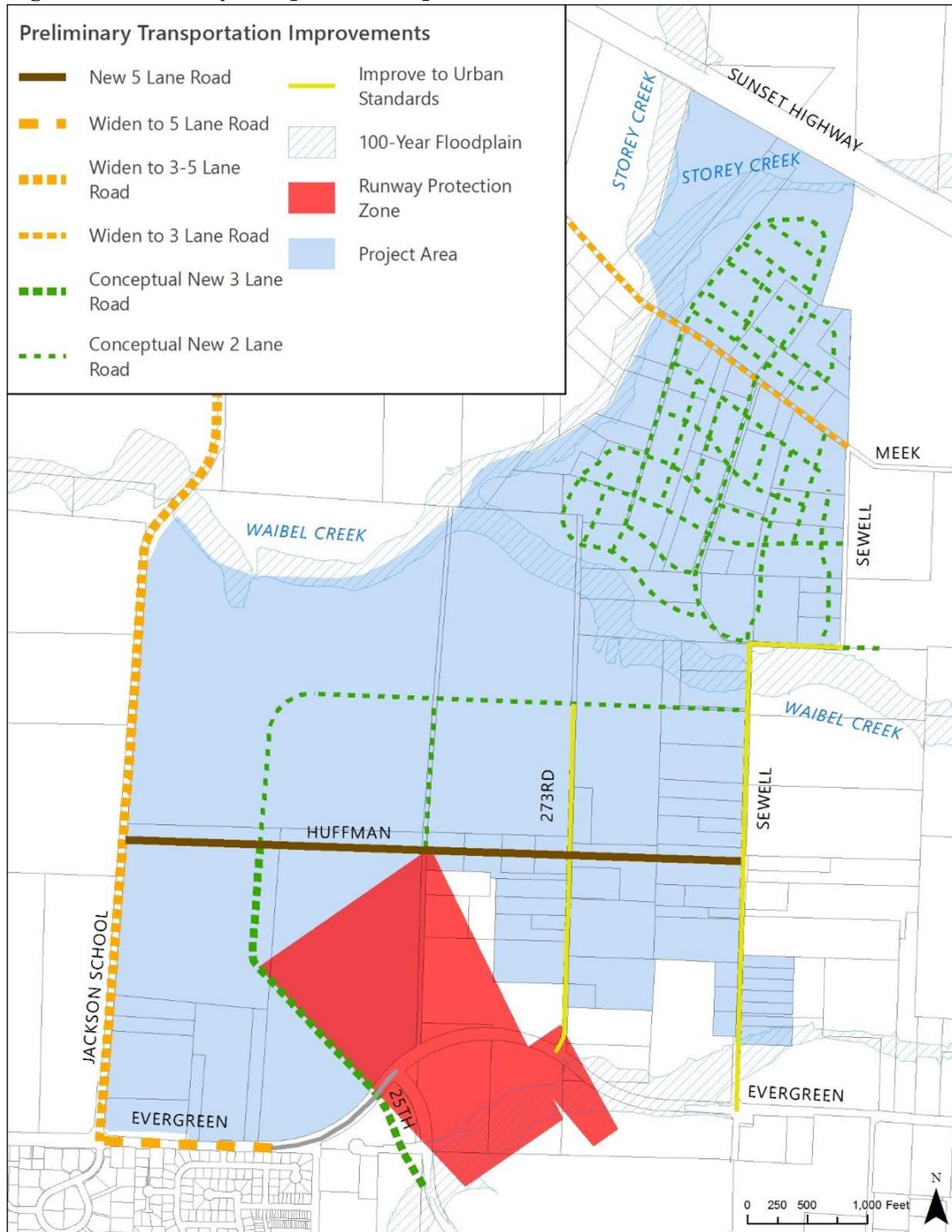
The City of Hillsboro's 2015 Trails Master Plan envisions a system of trails, multi-use paths, on-street bike facilities, proposed trails, and parks. The Trails Master Plan includes the concept of a Crescent Park Greenway, a continuous loop around Hillsboro. The exact location of this Greenway has yet to be decided, but it will cross the Jackson East Project Area, likely along Waibel Creek. Beyond the Crescent Park Greenway offering recreation on a natural-surface trail, enhancing and restoring natural areas, managing stormwater, and being an asset for future development, a paved trail providing active transportation is being considered beside this Greenway. Active transportation is defined as any form of human-powered transportation—walking, bicycling, using strollers, wheelchairs/mobility devices, in-line skating, and skateboarding.

The project team met with City of Hillsboro staff to discuss additional planned improvements in the vicinity of the project area. ODOT is currently constructing an expansion of the NW Brookwood Parkway/NW Helvetia Road/US Highway 26 interchange. In addition, there is a future project planned to widen US Highway 26 between NW Cornelius Pass Road and NW 185th Avenue. Washington County is in the planning stages for a realignment of NW Scotch Church Road with NW Meek Road, as well as the construction of a roundabout at the intersection with NW Jackson School Road in order to improve safety at that intersection. The Washington County Transportation Futures Study is a long-term transportation planning effort that will identify alternative transportation investments and evaluate how well they address our future challenges in meeting mobility, connectivity, safety, efficiency, health, equity, and other values important to the community.

IV. Preliminary Transportation Improvements

In order to support development of the Jackson East project area, improvements to existing roads and the construction of an internal road network will be necessary. The consulting team drew from years of design and development within Washington County to develop a conceptual network in accord with the City's connectivity and access standards. Figure 3 shows the preliminary transportation improvements. There are of course multiple network configurations that could effectively serve the area. The preliminary network is intended to show roadways and included non-auto facilities to serve future lots in the area.

Figure 3. Preliminary transportation improvements



Source: City of Hillsboro, Metro RLIS, and Washington County GIS data

The Jackson East Project is exploring the potential of industrial and residential uses. Large industrial site users locating within the Jackson East project area would not necessarily need such a comprehensive level of public streets, possibly choosing instead to provide circulation internally. City of Hillsboro Municipal Code sets a maximum block length of 1,000 feet between local and collector streets. However, the desire to preserve lands for larger users within the industrial area would typically require larger blocks. Accordingly, within the industrial areas of the project site, the conceptual network ranges with blocks from just over

1,000 feet to almost 2,500 feet in length. This pattern is not dissimilar to what is evident in nearby developments.

The conceptual local road network shown north of Waibel Creek was developed to explore the layout of residential blocks of primarily detached single-family lots. This conceptual road network has been designed around all existing residential. Typical blocks are 250 feet by 350 feet, with larger blocks where necessary. Residential street placement is based on a maximum block length – 530 feet unless precluded by topography or existing structures. If the area is ultimately selected for employment uses a network with larger block spacing would be employed. In all cases, the conceptual network provides a conservative estimate of the amount of facilities required to serve future users. Table 1 below describes the preliminary improvements for the Jackson East project area.

Table 1. Preliminary Road Improvements

Road Segment	Road Classification	New or Existing	Existing Lanes	Preliminary Lanes
NW Jackson School Road – Area Frontage	Arterial	Existing	2 lanes	3 lanes (dedicate ROW for 5 lanes)
NW Evergreen Road – Area Frontage west of NE 15 th Avenue	Arterial	Existing	3 lanes	5 lanes
NW Huffman Street – NW Jackson School Road to NE Sewell Avenue	Arterial	New	-	5 lanes
NW 25 th Avenue – NW Huffman Street to NW Evergreen Road	Arterial	New	-	3 lanes
NW Meek Road	Collector	Existing	2 lanes	3 lanes (dedicate ROW for 5 lanes)
NE Sewell Avenue – North of NW Evergreen Road	Local	Existing	2 lanes	Improve to 2-lane industrial street
NW 273 rd Avenue – North of NW Evergreen Road	Local	Existing	2 lanes	Improve to 2-lane industrial street
All other proposed roads	Local	New	2 lanes	2 lanes

There are three existing creek crossings in the vicinity of the project area. NW Jackson School Road crosses Waibel Creek at the project boundary. NW Meek Road crosses Storey Creek at the project area boundary. NE Sewell Avenue crosses Waibel Creek within the project area limits. Research is underway to verify capacity improvement opportunities for NW Jackson School Road or NW Meek Road, and therefore, improvements to the creek crossing are not proposed at this time. Improvements will need to be made to the NE Sewell Avenue crossing

of Waibel Creek in order to provide access to NW Evergreen Road from the area north of the creek.

As seen in Figure 3 above, the Hillsboro Airport Runway Protection Zone (RPZ) crosses over NW Evergreen Road and the existing intersection with NE 25th Avenue. A conceptual extension of NE 25th Avenue across NW Evergreen Road into the Jackson East project area is shown running along the western edge of the RPZ to an extended NW Huffman Street. Because roads are prohibited within the runway protection zone, NE 25th Avenue would need to be re-aligned south of NW Evergreen Road in order to avoid the RPZ, as shown in Figure 3. The distance between the conceptual NE 25th Avenue extension and NW Evergreen Road intersection and the NE 15th Avenue and NW Evergreen Road intersection meets the 600 foot minimum required spacing. The City will be working with Washington County to refine the conceptual alignment of NE 25th Avenue for inclusion in the Comprehensive Plan amendments in fall 2017. Right-of-way would need to be acquired for this re-alignment.

Potential Challenges

Roadway Capacity Improvements outside the Urban Growth Boundary

NW Jackson School Road is located outside of the Urban Growth Boundary. To support the development of the Jackson East project area, widening would need to occur along the NW Jackson School Road frontage. Specifically, on the east side of NW Jackson School Road.

In addition, it is likely that trips from the Jackson East project area to U.S. Highway 26 would utilize the existing NW Jackson School Road north of Waibel Creek and NW Meek Road west of Storey Creek. These segments of road are outside the UGB. Roadway capacity improvements can be made outside the UGB as long as the road and public utilities only provide service to urban areas inside the UGB. A potential challenge can be that the State's transportation planning rule (Oregon Administrative Rule 660-012-0060) requirements for urban improvements in rural areas could be a potential source of delay.

Phasing and Financing

A potential challenge is that the phasing of transportation improvements will largely be dependent on absorption of land within the North Hillsboro Industrial Renewal Area and regional demand for industrial sites. Funds from the Urban Renewal Area may be used for the NW Huffman Road extension, Waibel Creek and the Crescent Park Greenway. However, it is not a given that Urban Renewal Area funds will be used in all three future improvements. Other considerations, such as early demand for the 275-acre Vanrose Farms site within the project area could influence the timing. A large development project in the vicinity could facilitate earlier development of needed roadways, in-road utilities and a sanitary sewer pump station that could in-turn facilitate development of additional properties within the Jackson East project area.

Local roads and internal circulation would be constructed by the private developers as individual properties are developed. If lands, such as those norths of Waibel Creek are developed for residential use, roads and other infrastructure would likewise be constructed by the private developer. Accordingly, site specific infrastructure does not act as an antecedent for development of the community scale infrastructure such as the NW Huffman Road extension or improvements to NW Jackson School Road.

Lack of Local Street Improvement Funding

Washington County's Transportation Development Tax (TDT) provides an opportunity for development to receive TDT credits for improvements on arterials and collectors. NE Sewell Avenue and NW 273rd Avenue are currently 2-lane rural roads that would need to be improved to two-lane local industrial streets. A potential challenge is that these local improvements are not eligible for TDT funds. In the absence of an additional funding mechanism, their improvement to urban standards would rely on the use of general fund dollars or with private funds accompanying piecemeal infill development.

Limited Multi-Modal Connectivity

Another potential challenge is the limited multi-modal connectivity to exist between the Jackson East project area and the rest of Hillsboro. New and improved sidewalks and bike lanes will result from (re)development in and around the Jackson East project area. A paved trail being considered adjacent to the Crescent Park Greenway through the Jackson East project area would provide increased active transportation infrastructure. Yet, an urbanized Jackson East project area will remain a long walk or bike ride to access Hillsboro's vibrant centers and corridors. TriMet does not have plans to extend transit service into Jackson East or the North Hillsboro Industrial Renewal Area, nor increase the frequency of Bus 46-North Hillsboro service. Ride Connection's North Hillsboro Link currently provides service on NW Brookwood Parkway, approximately 1.5 miles east of the Jackson East project area. TriMet has suggested that perhaps a third party operated shuttle, similar to the North Hillsboro Link, could serve the North Hillsboro Industrial Renewal Area and future Jackson East employment south of an extended NW Huffman Street. This shuttle service may not be available to future residential in the Jackson East project area, limiting multi-family residential development opportunities.

V. Estimated Transportation Improvement Costs

Planning-level conceptual cost estimates were prepared for the transportation improvements, as described above and shown in Table 2. Costs were developed based on unit cost data from contactor bid tabulations from recent, local transportation improvement projects. A lineal foot cost for each type of street classification and improvement. The street widths and pavement sections used for estimation purposes are from the City of Hillsboro Design Standards. Road improvements for NW Huffman Street, NE 25th Avenue, and NW Meek Road were assumed to have concrete pavement, per Table 215.2 of the City of Hillsboro Design and Construction Standards. All other street improvements were assumed to have asphalt concrete pavement, per Table 215.1 of the City of Hillsboro Design and Construction Standards. Costs for the conceptual local street network north of Waibel Creek are not included in the estimate below. Storm drainage conveyance costs and costs associated with storm water treatment and detention can be found in the Utilities and Public Services report. An estimated cost is included for the NE Sewell Avenue crossing of Waibel Creek. The estimated cost for each improvement includes a contingency of 30 percent of construction costs and allowances for preliminary engineering and construction administration at 25 percent and 20 percent of construction costs, respectively. In addition, right-of-way acquisition costs have been provided for each road segment, based on a unit cost of \$5 per square foot.

Estimated costs were not included for the local public road network within the project area north of Waibel Creek as improvements scenarios vary considerably. Estimated costs were also not included for transportation improvements outside the project area, improvements to the existing bridge crossings on NW Jackson School Road at Waibel Creek and on NW Meek Road at Storey Creek, modification of existing traffic signals, installation of new traffic signals, retaining walls. Impacts to wetlands and other natural resources are unknown at this time, and mitigation costs have not been included.

Table 2. Estimated Transportation Improvement Costs

Road Segment	Improvement	Estimated Materials and Construction Costs	Estimated ROW Acquisition Costs
NW Huffman Street extension from NW Jackson School Road to NE Sewell Avenue	5 Lane Arterial	\$15.0 million	\$2.5 Million
NE 25 th Avenue Realignment from south of NW Evergreen Road to NW Huffman Street extension	3 Lane Arterial	\$7.9 million	\$1.3 Million
NW Evergreen Road from NW Jackson School Road to NE 15 th Avenue	Widen to 5 Lanes	\$2.2 million	\$0.2 Million
North side of NW Evergreen Road from NE 15 th Avenue to NE Sewell Avenue*	Sidewalk Improvements	\$0.6 million	N/A
NW Jackson School Road from NW Evergreen Road to Waibel Creek	Widen to 3-5 Lanes**	\$6.6 million - 9.8 million	\$0.4 Million - \$1.0 Million
NW Meek Road from Storey Creek to NE Sewell Avenue	3 Lane Arterial	\$4.6 million	\$0.3 Million
NW 273 rd Avenue and NE Sewell Avenue south of Waibel Creek, and new industrial streets south of Waibel Creek	2 Lane Industrial Streets	\$17.3 million	\$2.5 Million
NE Sewell Avenue Waibel Creek Crossing	New Bridge Structure	\$2.1 million	N/A
Total Cost		\$56.3 million - \$59.5 million	\$7.2 Million - \$7.8 Million

*Sidewalk improvements from NW Jackson School Road to NE 15th Avenue are included in the costs for widening NW Evergreen Road for that segment.

**Cost estimates reflect a range as further transportation planning must be completed to verify the widening needed for NW Jackson School Road from NW Evergreen Road to Waibel Creek.

VI. Next Steps

This draft report has been established to guide high level planning for the Jackson East project area. Upon review and decision making with stakeholders, options will be reduced and additional specificity added where appropriate. The final version of this report will act as a supporting document to the Jackson East Master Plan.