RESOLUTION NO. 2024

A RESOLUTION OF THE CITY OF WILSONVILLE APPROVING THE ACCESS MANAGEMENT PLAN FOR BARBER STREET: KINSMAN ROAD TO BOBERG ROAD, AS AUTHORIZED BY ORDINANCE NO. 551.

WHEREAS, the proposed improvements to Barber Street include widening Barber Street to three lanes from Kinsman Road to Boberg Road project; and

WHEREAS, the engineering services contract for the Barber Road Improvements project has been awarded and design has begun; and

WHEREAS, during the design process, it was determined that some of the existing vehicular accesses on Barber Street had to be modified and engineered to provide safe and efficient vehicular travel on Barber Street; and

WHEREAS, during the design process, the location of future and temporary accesses on Barber Street also had to be engineered to provide safe and efficient vehicular travel on Barber Street; and

WHEREAS, the project is needed to provide a safe and efficient movement of vehicular (commercial/private), bike, pedestrian and mass transit along the identified portion of Barber Street; and

WHEREAS, the City of Wilsonville has jurisdiction and regulatory control over its right-of-way as stated in Ordinance No. 551, adopted by the Wilsonville City Council on November 18, 2002, and as provided by its City Charter and State law.

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. The above recitals are adopted and incorporated as if fully set forth herein. The Barber Street Access Management Plan (Attached as Exhibit A) as hereinafter adopted by this Resolution is determined to be in the best interest of the public's health, safety, and welfare.
2. The Access Control Plan for Barber Road: Kinsman Road to Boberg Road is approved as described and depicted in the staff report dated October 16, 2006, attached hereto as Exhibit B.
3. This resolution is effective upon adoption.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 16th day of October, 2006, and filed with the Wilsonville City Recorder this date.

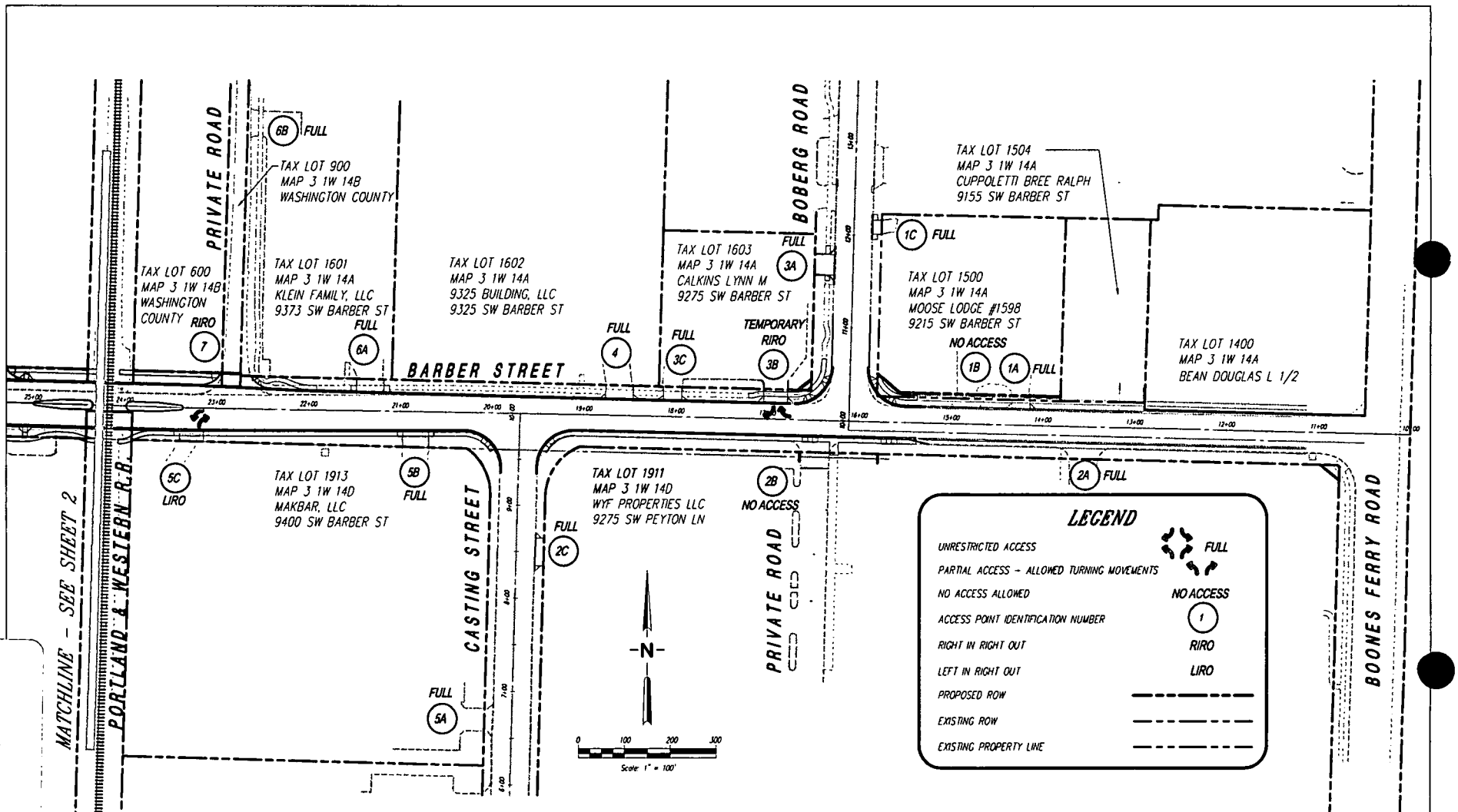
CHARLOTTE LEHAN, Mayor

ATTEST:

Sandra C. King, City Recorder, MMC

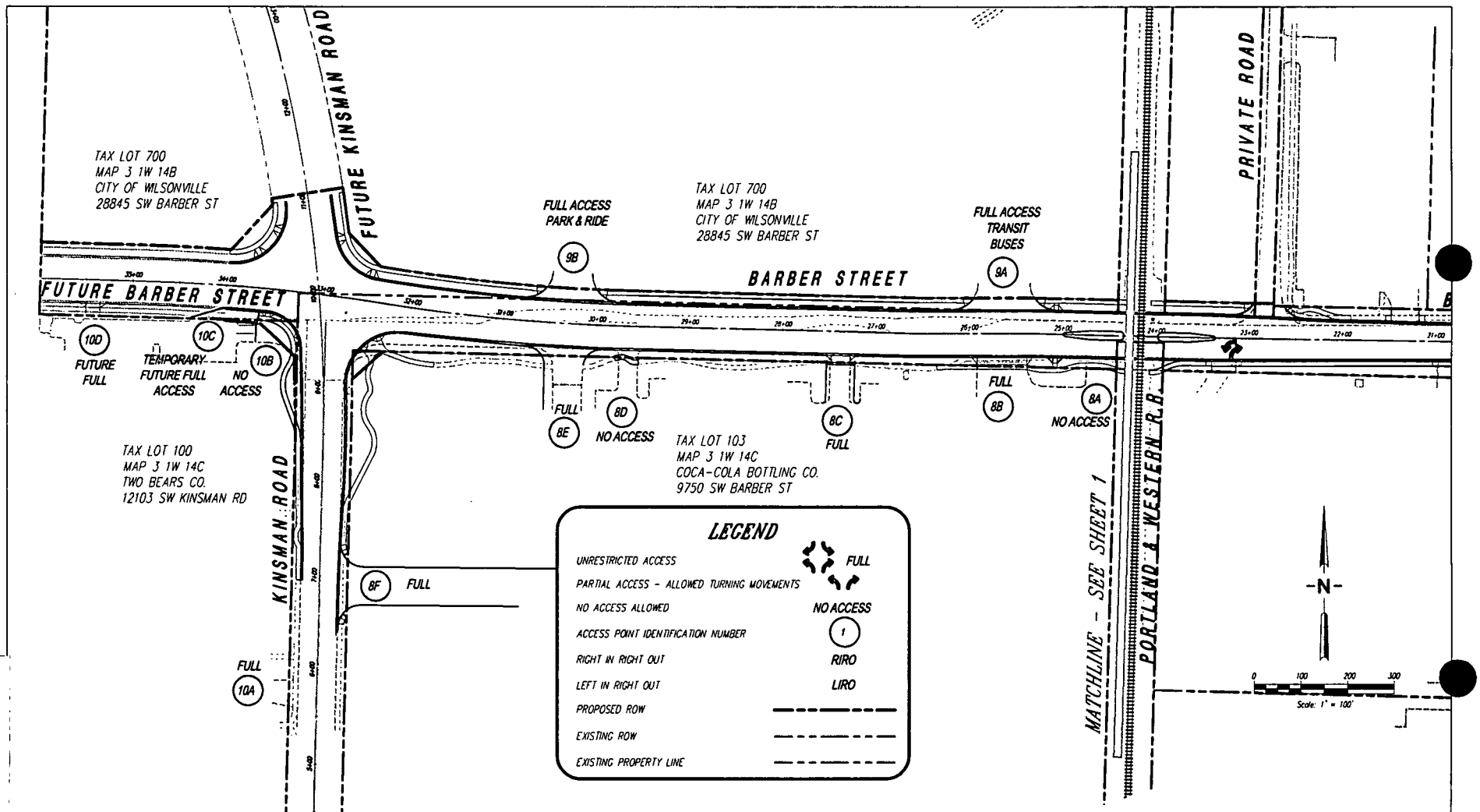
SUMMARY OF VOTES:

Mayor Charlotte Lehan	Yes
Council President Kirk	Yes
Councilor Holt	Yes
Councilor Ripple	Yes
Councilor Knapp	Yes



SW BARBER STREET EAST, PHASE 1
ACCESS CONTROL PLAN FROM BOBERG ROAD TO KINSMAN ROAD
SHEET 1 OF 2

Res. 2024 Exhibit A-1



SW BARBER STREET EAST, PHASE 1
ACCESS CONTROL PLAN FROM BOBERG ROAD TO KINSMAN ROAD
SHEET 2 OF 2

Res. 2024 Exhibit A-2

SW BARBER STREET EAST: BOBERG ROAD TO KINSMAN ROAD (WILSONVILLE)
ACCESS MANAGEMENT STRATEGY - RECOMMENDED ACTIONS FOR ACCESSES WITHIN PROJECT LIMITS

July 13, 2006
Revised:

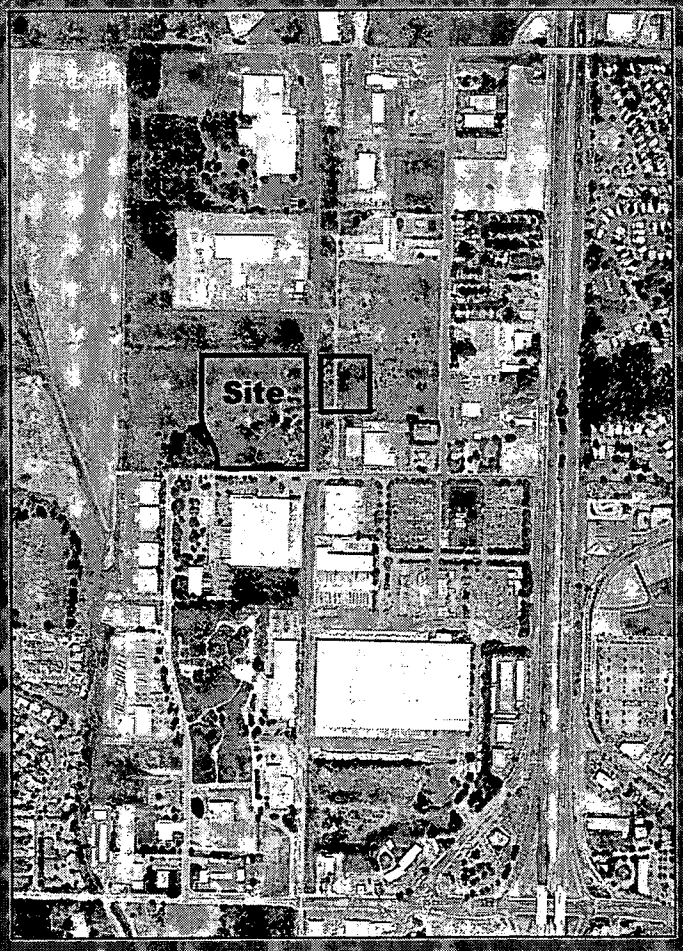
PHYSICAL INVENTORY (existing access information)							*OWNERSHIP AND TAX LOT*			*PROPOSED ACCESS*
Access Number	Side of Street	Station	Type of Service	Approach Material	Throat Width (FL)	Site Address	Ownership	Tax Lot(s)	Remarks	Recommendations/Comments
Barber Street - Sta. 15+25.0 to Sta. 34+00.0 - (Boberg Rd to Kinsman Rd)										
1A	North	14+24	Commercial	concrete	30	9215 SW Barber St.	Moose Lodge #1598	3 1W 14A TL 1500		Full Access
1B	North	14+83	Commercial	concrete	20	9215 SW Barber St.	Moose Lodge #1598	3 1W 14A TL 1500		No Access
2A	South	13+54	Commercial	concrete	30	9275 SW Peyton Ln.	WYF Properties LLC (Hollywood Video)	2 1W 14D TL 1911		Full Access
2B	South	16+16	Commercial	concrete	30	9275 SW Peyton Ln.	WYF Properties LLC (Hollywood Video)	3 1W 14D TL 1911		No Access
3B	North	16+91	Commercial	concrete	24	9275 SW Barber St.	Lynn M Calkins	3 1W 14A TL 1603	If traffic signal is warranted, driveway access will be removed.	Temp. Right In Right Out
3C	North	18+04	Commercial	concrete	20	9275 SW Barber St.	Lynn M Calkins	3 1W 14A TL 1603		Full Access
4	North	18+62	Commercial	concrete	30	9325 SW Barber St.	9325 Building LLC	3 1W 14A TL 1602		Full Access
5B	South	20+83	Commercial	concrete	26	9400 SW Barber St.	MAKBAR LLC	3 1W 14D TL 1913		Full Access
5C	South	23+26	Commercial	concrete	18	9400 SW Barber St.	MAKBAR LLC	3 1W 14D TL 1913		Left In Right Out
6A	North	21+33	Commercial	concrete	30	9373 SW Barber St.	Klein Family LLC	3 1W 14A TL 1601		Full Access
7	North	22+79	Commercial	concrete	26	N.A.	Washington County Oregon	3 1W 14B TL 900		Right In Right Out
8A	South	24+56	Commercial	concrete	29	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		No Access
8B	South	25+65	Commercial	concrete	40	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		Full Access
8C	South	27+38	Commercial	concrete	21	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		Full Access
8D	South	29+65	Commercial	concrete	20	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		No Access
8E	South	30+29	Commercial	concrete	40	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		Full Access
9A	North	25+64	Future Development	concrete	40	28845 SW Barber St.	City of Wilsonville	3 1W 14B TL 700		Full Access Future Development
9B	North	30+30	Future Development	concrete	40	28845 SW Barber St.	City of Wilsonville	3 1W 14B TL 700		Full Access Future Development
10C	South	33+81	Commercial	concrete	Varies (36' min)	12103 SW Kinsman Rd.	Two Bears Co.	3 1W 14C TL 100		Temporary Future Full Access
10D	South	35+42	Commercial	concrete	15	12103 SW Kinsman Rd.	Two Bears Co.	3 1W 14C TL 100		Future Full Access
Boberg Road - Sta. 9+83.5 to Sta. 12+23.1										
1C	East	12+09	Commercial	concrete	15	9215 SW Barber St.	Moose Lodge #1598	3 1W 14A TL 1500		Full Access
3A	West	11+66	Commercial	concrete	22	9275 SW Barber St.	Lynn M Calkins	3 1W 14A TL 1603		Full Access
Casting Street - Sta. 9+34.4 to Sta. 10+00.0										
2C	East	5+50	Commercial	concrete	30	9275 SW Peyton Ln.	WYF Properties LLC (Hollywood Video)	3 1W 14D TL 1911		Full Access
5A	West	6+69	Commercial	concrete	24	9400 SW Barber St.	MAKBAR LLC	3 1W 14D TL 1913		Full Access
Washington County Access Easement (Private Road)										
6B	East	9+61	Commercial	concrete	27	9373 SW Barber St.	Klein Family LLC	3 1W 14A TL 1601		Full Access
Kinsman Road - Sta. 6+84.8 to Sta. 11+03.5										
8F	East	6+85	Commercial	concrete	40	9750 SW Barber St.	Coca-Cola Bottling Co of OR	3 1W 14C TL 103		Full Access
10A	West	5+76	Commercial	concrete	24	12103 SW Kinsman Rd.	Two Bears Co.	3 1W 14C TL 100		Full Access
10B	West	5+76	Commercial	concrete	25	12103 SW Kinsman Rd.	Two Bears Co.	3 1W 14C TL 100		No Access

Report for

City of
WILSONVILLE
in OREGON

Washington County Commuter Rail Station

Transportation Impact Study



Prepared by
DKS Associates
TRANSPORTATION SOLUTIONS

December 2005

Res. 2024 Exhibit B

DKS Associates
TRANSPORTATION SOLUTIONS

December 14, 2005

Steve Adams, P.E.
Deputy City Engineer
City of Wilsonville
30000 Town Center Loop East
Wilsonville, OR 97070

Subject: Washington County Commuter Rail Transportation Impact Study
P#05017x013x000

Dear Steve,

DKS Associates is pleased to submit this transportation impact study for the proposed Washington County Commuter Rail station on the northwest corner of Barber Street and the existing railroad tracks in the City of Wilsonville. One hard copy and one reproducible original have been included for your use. Please feel free to call if you have any questions or comments regarding this study.

Sincerely,

***DKS** Associates*
A Corporation

Scott M. Mansur, P.E.
Transportation Engineer

1400 SW 5th Avenue, Suite 500
Portland, OR 97201
(503) 243-3500
(503) 243-1934

DKS Associates
TRANSPORTATION SOLUTIONS

Table of Contents

DKS Associates
TRANSPORTATION SOLUTIONS

Chapter 1
Introduction and Summary

This report evaluates the transportation impacts for the proposed Washington County Commuter Rail station located on the northwest corner of Barber Street and the existing Pacific and Western railroad tracks in the City of Wilsonville. The current phase of the proposed site would consist of a 400 space park and ride to be used by TriMet and Smart, a bus terminal, a commuter rail platform, and a rail vehicle maintenance facility. The site would have three access points to Barber Street. A second phase in planned in the future and would consist of 250 additional SMART park and ride spaces and a SMART maintenance facility. These accesses would include the main vehicle access to the park and ride lot, the bus access, and the access to the rail maintenance facility. This study focuses on traffic operations at the following intersections:

- Boberg Road/Boeckman Road
- Boberg Road/Barber Street
- Barber Street/Boones Ferry Road
- Barber Street/Vehicle Access
- Barber Street/Bus Access
- Barber Street/Rail Maintenance Access

The study area is shown in Figure 1. Other issues covered in this report include site access, trip generation, circulation for autos, pedestrians, and turn lane warrants.

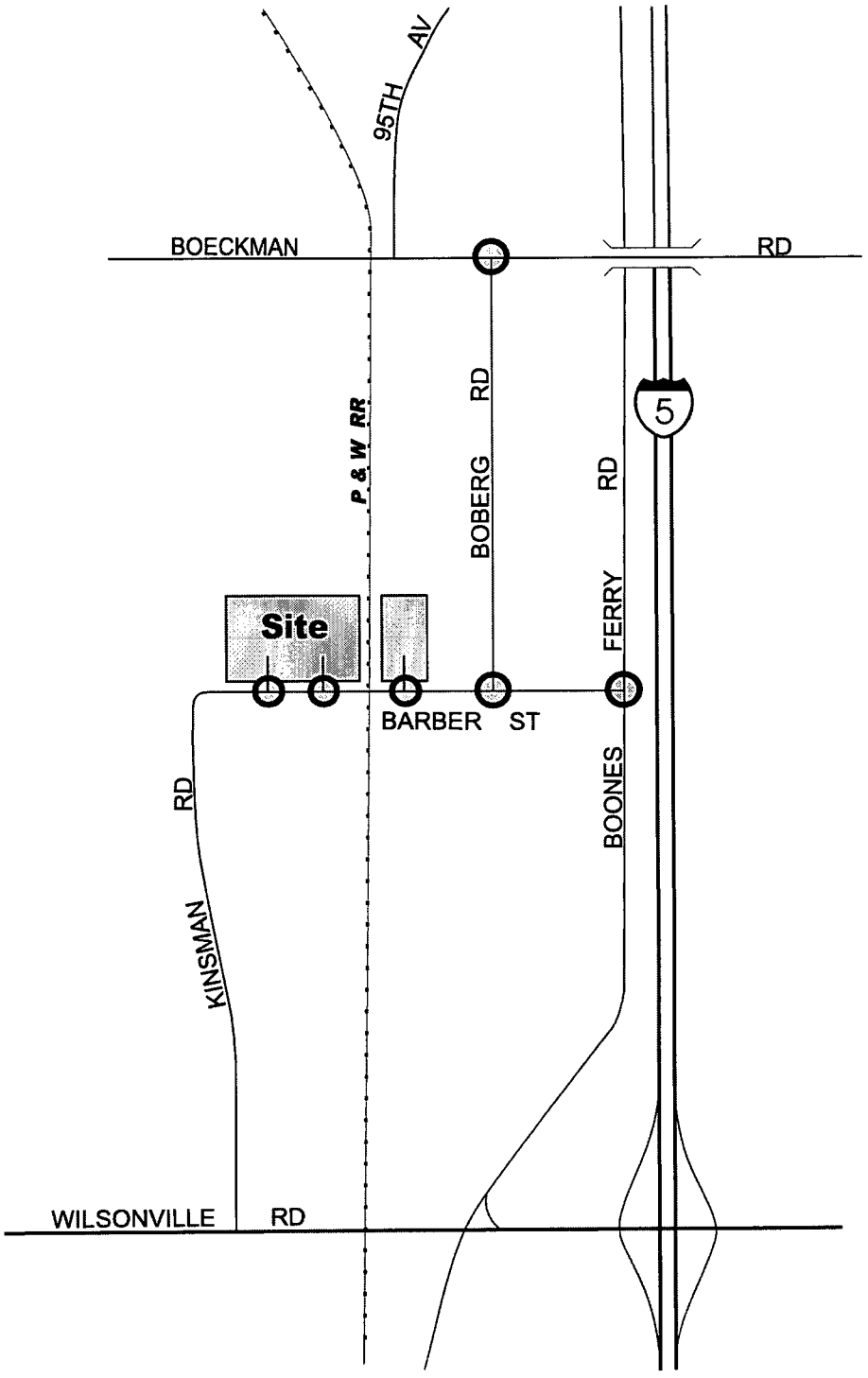
Project traffic impacts were evaluated for the weekday evening peak period (4:00 PM to 6:00 PM), when traffic volumes in the study area are highest. In addition to project impacts, developments in the area, which have Stage II approval or are under construction, but not yet occupied were included and analyzed. Tables 1 and 2 summarize project impacts.

PROJECT TRAFFIC IMPACT

The additional traffic from the proposed project combined with other Stage II approved projects would degrade traffic operations at two study area intersections. A series of transportation mitigation measures are outlined to reduce the negative transportation impacts of future traffic growth.

DKS *Associates*
TRANSPORTATION SOLUTIONS

NO SCALE



LEGEND

- Study Intersection

Figure 1

STUDY AREA

Table 1: Transportation Impact Summary

Estimated Net PM Peak Hour Project Trips	306 (76 in/230 out)
Estimated Net New Weekday PM Peak Hour Project Trips Through I-5/Wilsonville Road Interchange	24
Vehicle Access Points	Three vehicle accesses to Barber Street
Pedestrian Facilities	Sidewalks would need to be constructed on Barber Street along project frontage
Number of Study Intersections	6
Analysis Periods	Weekday PM Peak (4:00-6:00)
Nearest Bicycle Route	Barber Street/Boberg Road
Nearest Transit Stop	Barber Street

Table 2: Intersection Level of Service Summary – (PM Peak Hour)

Intersection	Existing	Existing + Project	Existing + Stage II	Existing + Project + Stage II
Unsignalized		*Major Street/Minor Street LOS*		
Boberg Road/Boeckman Road	A/D	A/F	A/F	A/F
Boberg Road/Barber Street	A/B	A/D	A/C	A/C
Barber Street/Boones Ferry Road	A/B	A/C	A/B	A/F
Barber Street/Main Vehicle Access	-	A/C	-	A/C
Barber Street/Bus Access	-	A/C	-	A/C
Barber Street/Rail Maintenance Access	-	A/B	-	A/B

LOS = Level of Service
A/A = Major Street LOS/Minor Street LOS

Project Oriented Transportation Mitigation
The following measures are related to the project and would typically be conditions if the project were approved, except where noted.

- Improvements to both the Boeckman Road/Boberg Road and Barber Street/Boberg Road intersections should be coordinated with City staff. The project sponsor should pay a proportionate share to the future improvements to these intersections. Another mitigation alternative would be to allocate the proportionate share for off-site improvements or system development charges to the future Kinsman extension from Barber Street to Boeckman Road (TSP short range project C2).

- Half street improvements to the future Kinsman Extension should be constructed along the project frontage. These frontage improvements to Kinsman Road could be extended far enough to the north to provide access to the Utility Vault property since the current access would be removed with the construction of the rail maintenance facility.

- Construct street improvements (including sidewalks, curb and gutter) consistent with a minor collector along the project frontage to Barber Street including the segment between Kinsman Road and the main vehicle access and between the railroad tracks and the Utility Vault existing access. Coordinate with City staff for appropriate cross section.

- Prior to occupancy, sight distance at the project access points will need to be verified, documented, and stamped by a registered professional Civil Engineer licensed in the State of Oregon. Documentation will need to be provided to the City of Wilsonville by the applicant for approval.

- Bicycle racks should be provided at convenient locations near the bus platform and rail station uses.

- All sidewalks within the site should conform to ADA requirements.[1]

[1] *ADA Accessibility Guidelines for Buildings and Facilities*, Department of Justice, January 1998.

Chapter 2
Existing Conditions

The proposed Washington County Commuter Rail station would be located on the northwest corner of Barber Street and the existing Pacific and Western railroad tracks in the City of Wilsonville. The initial phase of the proposed Commuter Rail station would consist of a 400 space park and ride to be used by TriMet and Smart, a bus terminal, a commuter rail platform, and a rail vehicle maintenance facility. The site would have three access points to Barber Street. These accesses would include the main vehicle access to the park and ride lot, the bus access, and the access to the rail maintenance facility. In consultation with City staff, the following three existing intersections were selected for analysis:

- Boberg Road/Boeckman Road
- Boberg Road/Barber Street
- Barber Street/Boones Ferry Road

The following sections summarize current traffic and transportation conditions in the study area, with supporting detail (traffic counts and level of service calculations) provided in the appendix.

ROADWAY NETWORK

Table 3: Existing Roadway Network (within the study area)

Roadway	Wilsonville Classification	Cross Section	Posted Speed	On-Street Parking	Sidewalks	Bike Lanes
Boberg Road	Minor Collector	2 Lanes	35	Yes	One Side	Yes
Boeckman Road	Major Arterial	2-3 Lanes	40	No	No	Yes (95th to Boberg)
Barber Street	Minor Collector	2 Lanes	35	No	Both	No
Kinsman Road	Minor Collector	2-3 Lanes	35	No	Both	Yes
Boones Ferry Road	Major Collector	2 Lanes	35	No	No	No

EXISTING TRAFFIC OPERATIONS

While analysis of traffic flows is useful in attempting to reach an understanding of the general nature of traffic in an area, traffic volume alone indicates neither the ability of the street network to carry additional traffic nor the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Intersections are the controlling bottlenecks of traffic flow, and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

An intersection's level of service (LOS) is similar to a "report card" rating, based on average vehicle delay. Level of service A, B and C indicate conditions where vehicles can move freely. Level of service D and E are progressively worse. For signalized intersections, level of service F represents conditions where the average delay for all vehicles through the intersection exceeds 80 seconds per vehicle, generally indicated by long queues and delays. Under this operating condition, delay is highly variable, and it is difficult to estimate average delay accurately because congestion often extends into and is affected by adjacent intersections. Descriptions of levels of service for signalized and unsignalized intersections are contained in the appendix. Level of service D is the City's minimum acceptable service level during peak periods.[2]

Intersection turn movement counts were conducted at study area intersections during the evening peak period of 4:00 PM to 6:00 PM (see appendix for traffic counts). Existing PM peak hour operating conditions were determined based on the *2000 Highway Capacity Manual* methodology for signalized and unsignalized intersections. Traffic counts and level of service calculation sheets are included in the appendix. The existing study intersection turn movements are shown in Figure 2.

All of the study intersections currently operate at or above the City's LOS D standard based on HCM methodology. The existing study intersection levels of service are shown in Table 4.

Table 4: Existing Intersection Performance (PM Peak Hour)

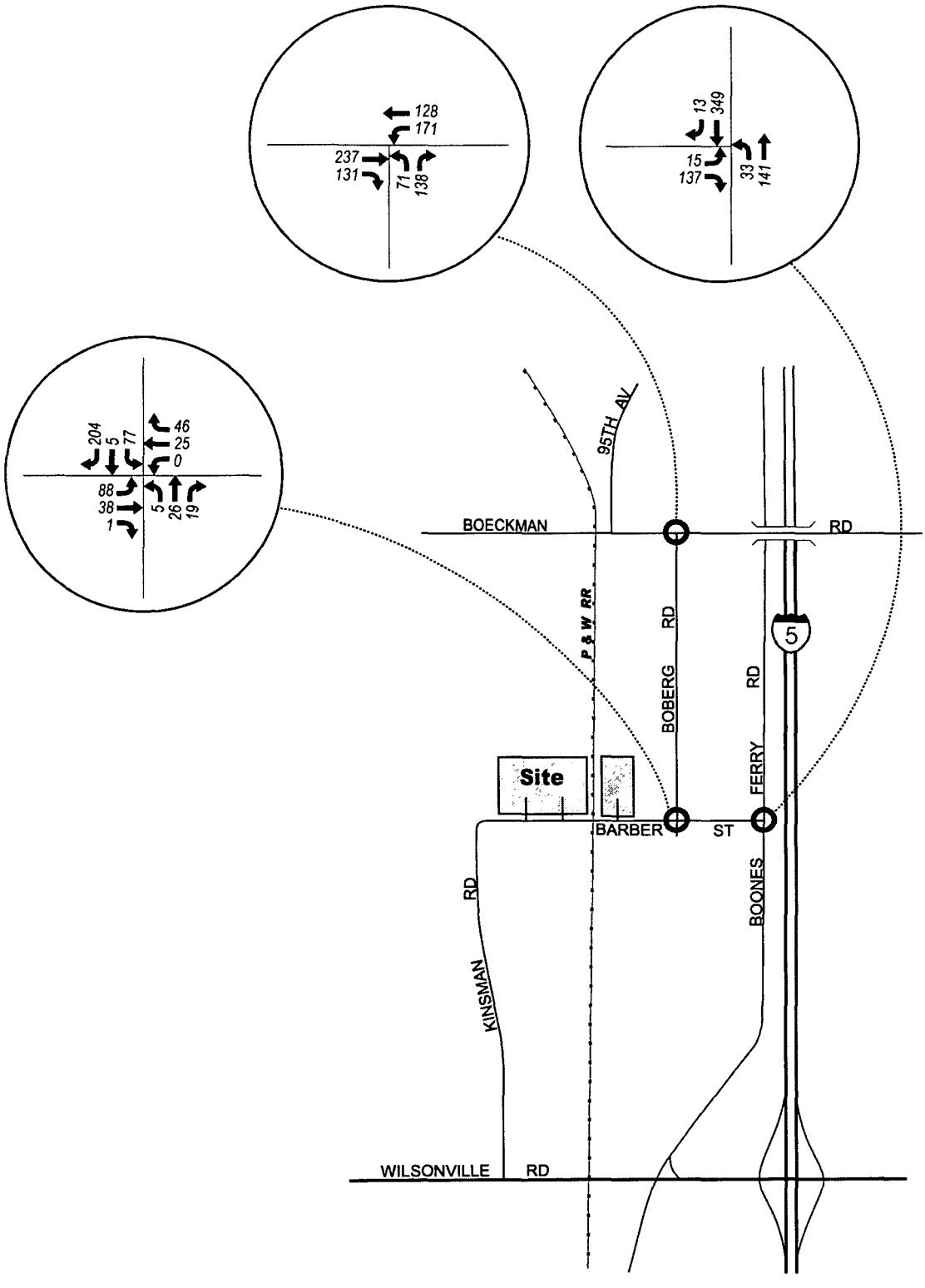
Unsignalized Intersection	PM Peak Hour	
	Delay	LOS
Boberg Road/Boeckman Road	31.4	A/D
Boberg Road/Barber Street	14.0	A/B
Barber Street/Boones Ferry Road	12.9	A/B

Delay = Highest Approach Delay per Vehicle (seconds)
LOS = Level of Service
A/A = Major Street LOS/Minor Street LOS

[2] *City of Wilsonville Code*, Section 4.140, p.163.

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE



LEGEND

- O - Study Intersection
- ← 00 - PM Peak Hour Traffic Volume

Figure 2

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

COLLISION HISTORY

Table 5 summarizes the most recent available vehicle collision data at the study intersections over the last three years.[3] Boberg Road at Boeckman Road experienced two collisions during the analysis period. This is equivalent to a collision rate of 0.23 per million entering vehicles (MEV) and therefore does not indicate a safety problem at this time (typically a collision rate >1.0/MEV indicates a safety related problem). There were no records of any collisions at the other study intersection.

Table 5: Study Area Intersection Collisions (2000-2002)

Intersection	2003	2002	2001	Total	Collision Rate/MEV
Boberg Road/Boeckman Road	2	0	0	2	0.23
Boberg Road/Barber Street	0	0	0	0	0
Barber Street/Boones Ferry Road	0	0	0	0	0

MEV- Million Entering Vehicles

PEDESTRIAN/BICYCLE

Adjacent to the project site, Barber Street has a sidewalk on one side and no bike lanes. There are bike lanes on Boeckman Road between 95th Avenue and Boberg Road and on Kinsman Road from Wilsonville Road to Barber Street. Low volumes of pedestrians and bicyclists were observed (5 or less) during the PM peak hour.

PUBLIC TRANSIT

SMART (South Metro Area Rapid Transit) offers regularly scheduled bus service between Wilsonville, Salem's Cherriots transit system, Canby's CAT (Canby Area Transit) system, and Portland's Tri-Met transit system. Route 201 provides service from Wilsonville to Tri-Met's Tualatin Park and Ride and the Barbur Transit Center. Route 203 provides service within Wilsonville from the City Hall Park and Ride to Commerce Circle via Boones Ferry Road and 95th Avenue. Route 204 provides service on Wilsonville Road and Town Center Loop connecting the east and west city limits. Route 205 provides service from Wilsonville to Canby Transit Center located in downtown Canby. Route 1X provides service throughout Wilsonville and connects to the Salem Transit Mall. SMART also operates a dial-a-ride system that operates on a demand-responsive basis.

SMART bus routes 203 travel on Barber Street directly adjacent to the proposed Commuter Rail station. Smart will divert all of its routes into the commuter rail station so that all routes will connect with commuter trains.

[3] Collision data for Wilsonville from January 2001 through December 2003, ODOT Crash Analysis and Reporting Unit.

Chapter 3
Impacts

This chapter reviews the impact of the proposed Washington County Commuter Rail Station on the existing transportation system. The analysis includes assessment of trip generation and distribution, capacity analysis of study intersections with existing and projected future traffic loadings, signal warrants, turn lane needs, access spacing, and site circulation.

PROJECT DESCRIPTION

The Washington County Commuter Rail is a proposed 14.7 mile passenger rail route that will run between Beaverton and Wilsonville on the existing Pacific and Western railroad tracks. The Commuter Rail line would have five park and ride stations including one in the City of Wilsonville. The proposed Wilsonville station will consist of two phases. The first phase would consist of a 400 space park and ride for the Commuter Rail line, a bus terminal for Smart buses, a commuter rail platform, and a rail vehicle maintenance facility. The second phase will consist of 250 additional SMART park and ride spaces and a SMART maintenance facility.

TRIP GENERATION AND DISTRIBUTION

The park-and-ride trip generation is consistent with the prior memo we issued regarding the Washington County Commuter Rail park-and-ride[4]. Those trip rates were based upon 10 separate trip generation surveys in the Portland/Vancouver region of rail and bus park-and-ride facilities. The maintenance facility trip generation was based on the estimate of employees and the ITE land use of light industrial[5].

The proposed project would be expected to generate approximately 306 (76 in/230 out) net trips during the weekday PM peak hour. The estimated trip generation is summarized in Table 6.

Table 6: Project Vehicle Trip Generation

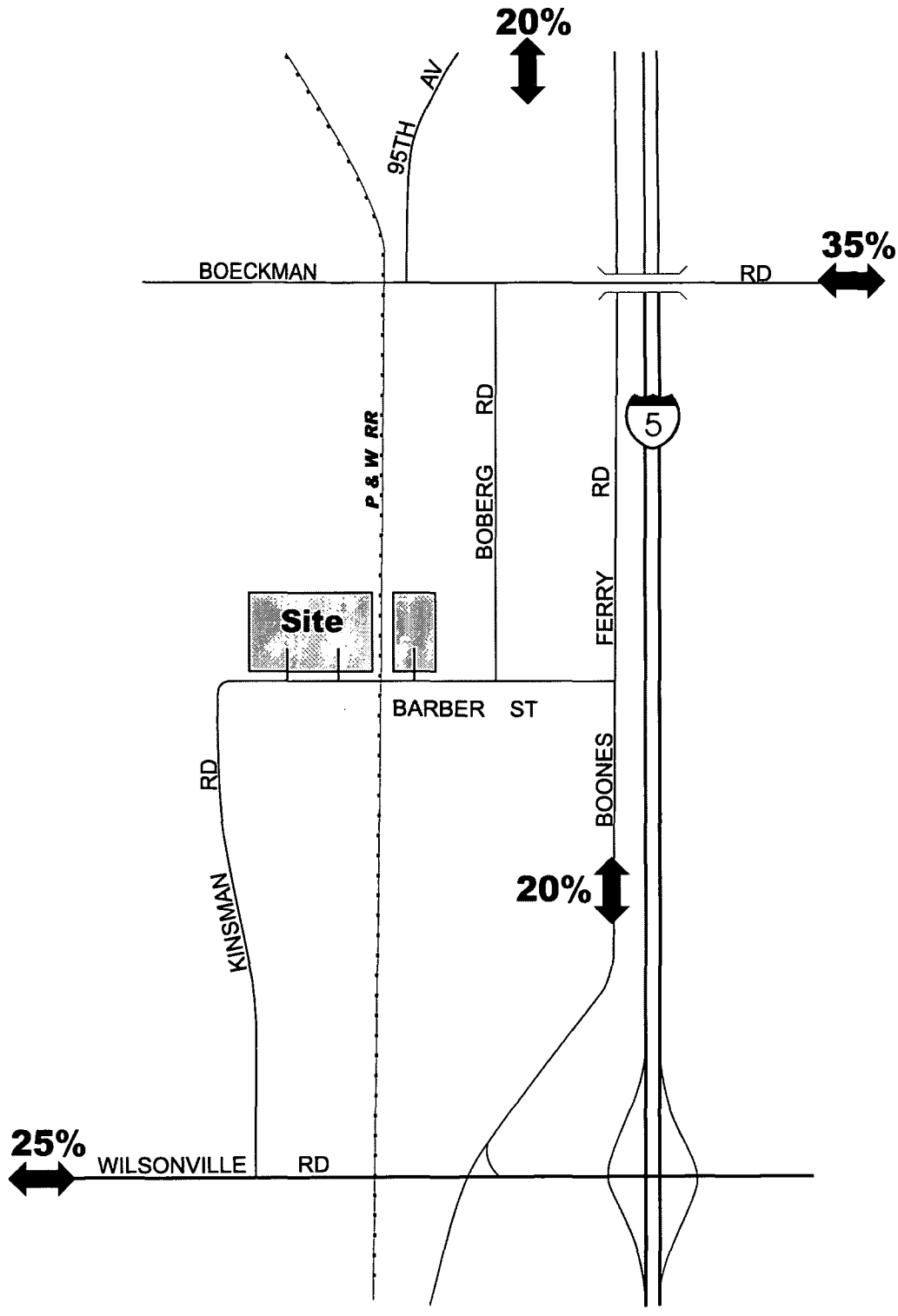
Land Use	Size (sq. ft)	Trip Rate	PM Peak Hour Trips		
			In	Out	Total
Commuter Rail Park and Ride Station	400 Stalls	0.75/Stall	75	225	**300**
Rail Maintenance Facility	15 Emp.	0.42/Emp.	1	5	**6**
		Total Project Trips	**76**	**230**	**306**

Trip distribution for the maintenance facility was based upon the City of Wilsonville travel demand forecast model. A unique distribution was developed for the park and ride station. The distribution is based upon 2/3 of the trips being home-based from Wilsonville, 12% being kiss and ride trips, from Wilsonville origins and the other 21% being based outside of Wilsonville (principally from south of the Willamette River). These trip determinations were based on assessments of the travel forecasts for the Washington County Commuter Rail. Figure 3 shows the assumed distribution of project traffic on the existing street network.

[4] *Washington County Commuter Rail Wilsonville Station Area*, DKS Associates, December 17, 2004.
[5] *Trip Generation Informational Report*, Institute of Transportation Engineers, 2003, Land Use code 110.

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE



LEGEND

25% - Distribution Percentage

Figure 3

PROJECT TRIP DISTRIBUTION

INTERSECTION CAPACITY

Study intersection capacity was analyzed for the proposed Washington County Commuter Rail station during the PM peak hour. The analysis focused on four operating condition scenarios:

- Existing operating conditions (previous section)
- Existing plus project operating conditions
- Existing plus stage II operating conditions (includes traffic from other developments in the project vicinity that have Stage II approval or are under construction)
- Existing plus project plus stage II operating conditions

Existing plus Project Development

Table 7 compares existing intersection operating conditions with and without project development traffic. With the addition of project traffic, the intersection of Boberg Road/Boeckman Road would operate below (LOS "F") the city's level of service requirements during the PM peak hour. The intersection of Boberg Road/Barber Street would change from level of service "B" to level of service "D" with the additional project traffic. The remaining intersections would operate at or below level of service "C".

Table 7: Existing + Project Level of Service Conditions (PM Peak Hour)

Intersection	Existing		Existing + Project	
	Delay	LOS	Delay	LOS
Boberg Road/Boeckman Road	31.4	A/D	>50.0	A/F
Boberg Road/Barber Street	14.0	A/B	28.0	A/D
Barber Street/Boones Ferry Road	12.9	A/B	16.1	A/C
Barber Street/Main Vehicle Access	-	-	15.3	A/C
Barber Street/Bus Access	-	-	16.4	A/C
Barber Street/Rail Maintenance Access	-	-	12.5	A/B

Delay = Average Stopped Delay per Vehicle (seconds)
LOS = Level of Service
V/C = Volume-to-Capacity Ratio
A/A = Major Street LOS/Minor Street LOS

Existing plus Project plus Stage II Approvals
City staff[6] provided information for stage II developments that are approved or currently under construction. A list of stage II developments assumed for this alternative and the total PM peak hour trip generation are included in the appendix.

With the addition of Stage II traffic, the intersection of Boberg Road/Boeckman Road would not meet the City's LOS standard. The remaining study intersections would operate at LOS "C". The additional traffic from the proposed project combined with other Stage II approvals would degrade traffic operations at the Boberg Road/Boeckman Road and Boberg Road/Barber Street intersections beyond the City's standards. Traffic volumes for the Existing + Project + Stage II scenario are shown in Figure 4. Table 8 summarizes the level of service impacts.

Table 8: Existing + Project + Stage II Level of Service Conditions (PM Peak Hour)

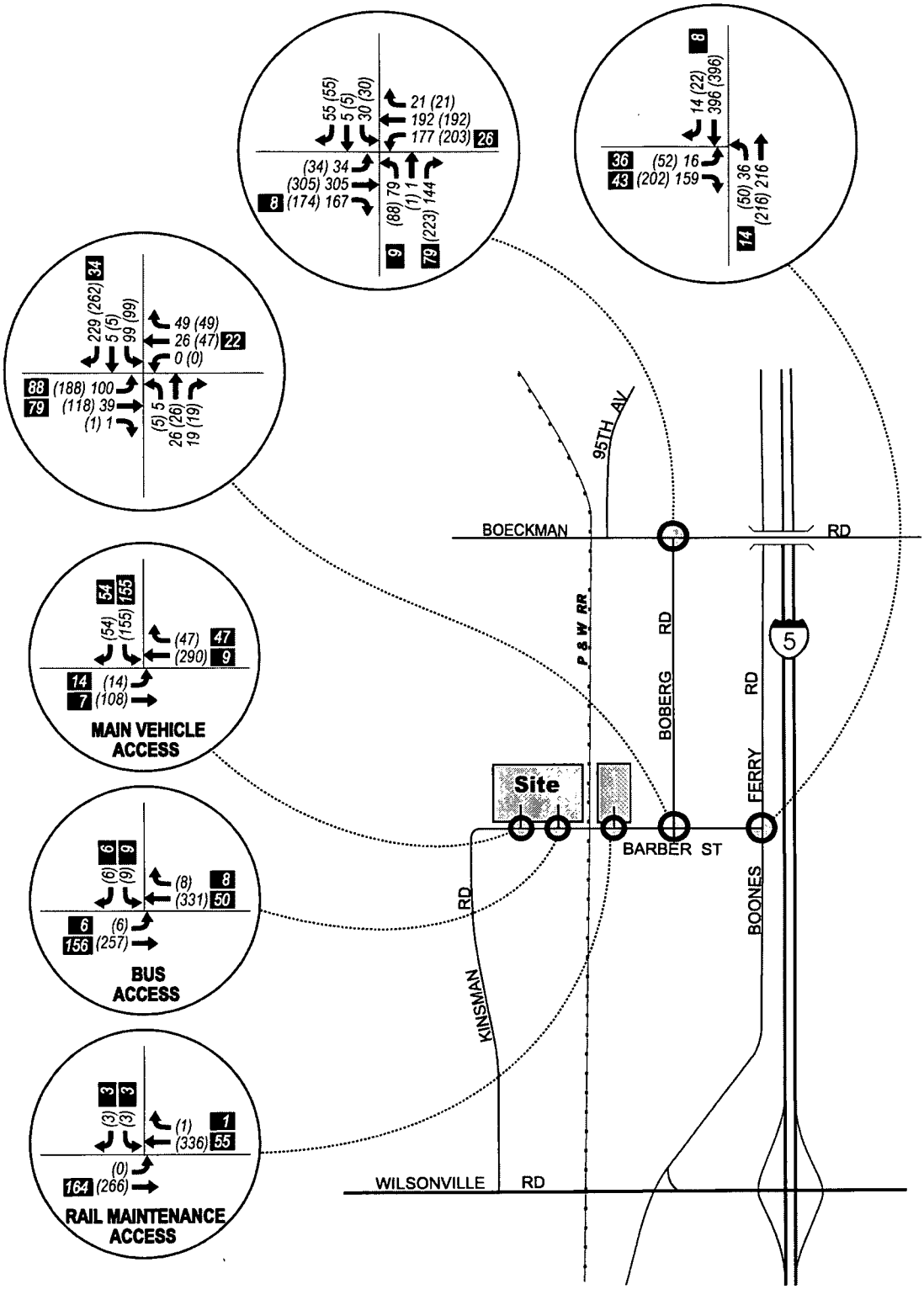
Intersection	Existing + Stage II		Existing + Stage II + Project	
	Delay	LOS	Delay	LOS
Boberg Road/Boeckman Road	>50	A/F	>50	A/F
Boberg Road/Barber Street	16.9	A/C	19.5	A/C
Barber Street/Boones Ferry Road	14.4	A/B	>50	A/F
Barber Street/Main Vehicle Access	-	-	16.4	A/C
Barber Street/Bus Access	-	-	17.3	A/C
Barber Street/Rail Maintenance Access	-	-	13.0	A/B

Delay = Average Stopped Delay per Vehicle (seconds)
LOS = Level of Service
V/C = Volume-to-Capacity Ratio
A/A = Major Street LOS/Minor Street LOS

[6] DKS Associates, written response from Paul Cathcart, September 28, 2005 (see appendix for overall listing).

DKS Associates
TRANSPORTATION SOLUTIONS

NO SCALE



LEGEND

- O - Study Intersection
- ← *00 (00)* - Existing+Stage II (Existing+Project+Stage II)
- **00** - Project Traffic

Figure 4

FUTURE PM PEAK HOUR TRAFFIC VOLUMES

Existing plus Stage II Approvals plus Project with Project Improvements (Mitigated)

As shown in Table 8 on the following page, the Boeckman Road/Boberg Road and Barber Street/Boberg Road unsignalized intersections would not meet level of service standards for the PM peak hour with the addition of Stage II approved projects and project traffic associated with the Washington County Commuter Rail Station.

Boeckman Road/Boberg Road

An improvement project to Boeckman Road was identified in the City's TSP[7] from 95th Avenue to Parkway Avenue. This improvement would widen Boeckman Road to 5-lanes and would replace the I-5 overpass bridge. Since this project is a long-range project (11-20 years) it was not included in the future analysis scenarios.

Additionally, several improvements were recommended to the intersection of Boeckman Road/Boberg Road in the *Wilsonville Business Center Transportation Impact Study* and *Town and Country Transportation Impact Study* that currently have stage II approval. These improvements included:

- An eastbound right turn lane on Boeckman Road at Boberg Road.
- A northbound right turn lane on Boberg Road at Boeckman Road.
- Add a separate southbound left turn lane out of the Town and Country site driveway on Boeckman Road.

With the improvements identified above, the minor street approaches from Boberg Street and the approved auto dealership would continue to not meet the city's level of services standard. The traffic volumes would be well below signal warrant thresholds, therefore no additional improvements were recommended at the intersection. It should be noted that the City of Wilsonville has identified a short-range project (0-5 years) that would extend Kinsmen Road from Barber Street to Boeckman Road. This improvement project would likely relieve a major portion of the traffic that is currently using or is projected to use Boberg Road.

Barber Street/Boberg Road

No improvements to this intersection are recommended in the City's TSP. This intersection could be improved with the addition of a southbound left turn lane on Boberg Road. Currently there is no available right-of-way to construct this improvement and there are two existing businesses on either side of Boberg Road that would be impacted. As previously mentioned, the City of Wilsonville has identified a short-range project (0-5 years) that would extend Kinsmen Road from Barber Street to Boeckman Road. This improvement project would likely relieve a major portion of the traffic that is currently using or is projected to use Boberg Road. This is especially true for project traffic from the Washington County Commuter Rail station since the Commuter Rail parking lot would have a future access to the Kinsman extension that would make this route the major north/south connector street.

SIGNAL WARRANTS

The peak hour signal warrant (MUTCD warrant No. 3) was not met at any of the unsignalized study area intersections for all scenarios. The peak hour warrant evaluation is attached in the appendix.

[7] *Transportation System Plan*, City of Wilsonville, June 2, 2003, Long Range Project W-4, Table 4.r.

TURN LANE REQUIREMENTS

There is currently a westbound left turn lane at Boeckman Road at Boberg Road and a northbound left turn lane on Boones Ferry Road at Barber Street. Left turn lanes do not currently exist on Barber Street or Boberg Road, therefore, left turn lane warrants were evaluated at the study intersections. No study intersections met left turn lane warrants.

Right turn lane warrants were checked at the project access points. No right turn lanes would be warranted at the project access points. Turn lane warrants are attached in the appendix.

ACCESS SPACING

The access spacing requirement for Barber Street is 50 feet minimum based on the minor collector functional classification.[8] The current site plan shows three access points to Barber Street. The main vehicle access is located 250 feet east of Kinsman Road. The proposed bus access is located 450 feet east of the main vehicle access. The maintenance access would utilize the existing Utility Vault access just east of the railroad tracks. It appears from the site plan that the main vehicle access and the bus access would align with existing accesses to the Coca-Cola warehouse. TriMet should work with City staff to assure that the proposed access points would align with existing access points as feasible.

TRIPS THROUGH THE WILSONVILLE ROAD INTERCHANGE AREA

The trips generated by the Washington County Commuter Rail are unlike other land use project trips in that trips that originally traveled from home to the I-5 freeway and north to other Washington County or LRT-served destinations would now travel via the Washington County Commuter Rail. Therefore, a large portion of the project trips coming to and from the Washington County Commuter Rail would already exist within the Wilsonville Road interchange area during the PM peak period. Table 9 summarizes the net interchange trips for the current elements of the Washington County Commuter Rail facility.

Table 9
Estimated PM Peak Hour Trips to/from the I-5 Wilsonville Road Interchange Area

Element		Net Interchange Trips
WCCR Park-and-Ride	400 spaces	23
WCCR Maintenance	15 employees	1
	TOTAL	**24**

SITE ACCESS AND CIRCULATION

This section discusses the access and internal circulation based on the site plan provided for motor vehicles, pedestrians and bicycles. The project site plan for the proposed development is included in the appendix.

Sidewalks are shown on the site plan along the project frontage to Barber Street from the main vehicle access to the railroad tracks. Sidewalks should also be provided from the main vehicle access to the future Kinsman Road intersection to provide pedestrian connectivity to the west. Sidewalks should also be

[8] *Transportation System Plan*, City of Wilsonville, By Entranco, June 2, 2003, Page 4-69, Table 4.o.

provided from railroad tracks to the east side of the proposed rail maintenance facility to connect to the existing sidewalk on the north side of Barber Street.

The internal circulation provides safe pedestrian linkages from the Barber Street to the bus platform and the rail station. The parking lot provides pedestrian aisles from the parking lot to the bus platform and rail station.

When the Kinsman extension is constructed to the north of Barber Street, a secondary access and pedestrian connection should be provided from the northwest quadrant of the park and ride lot to Kinsman Road to provide a secondary vehicle access. This secondary access would enhance circulation and decrease delays to and from the park and ride lot especially during the peak periods.

UTILITY VAULT ACCESS

The proposed TriMet rail maintenance facility would remove the existing Utility Vault access to Barber Street thus removing an existing railroad crossing. This existing access is located just east of the Pacific and Western railroad tracks and runs north and then crosses the railroad tracks to the Utility Vault property on the west side of the Pacific and Western railroad tracks. A new access will need to be provided to Utility Vault prior to the removal of the existing rail maintenance facility. This access could be provided via partial construction of the Kinsman extension from Barber Street to the southwest property boundary. A minimum of 24 feet of roadway width (with curb and gutter) would be needed to provide two 12-foot travel lanes to and from the Utility Vault property until the full Kinsman extension cross section is constructed.

Chapter 4
Mitigation

The additional traffic from the proposed project combined with other Stage II traffic would degrade traffic operations at one study area intersection. A series of transportation mitigation measures are outlined to reduce the negative transportation impacts of future traffic growth.

Project Oriented Transportation Mitigation
The following measures are related to the project and would typically be conditions if the project were approved, except where noted.

- Improvements to both the Boeckman Road/Boberg Road and Barber Street/Boberg Road intersections should be coordinated with City staff. The project sponsor should pay a proportionate share to the future improvements to these intersections. Another mitigation alternative would be to allocate the proportionate share for off-site improvements or system development charges to the future Kinsman extension from Barber Street to Boeckman Road (TSP short range project C2).

- Half street improvements to the future Kinsman Extension should be constructed along the project frontage. These frontage improvements to Kinsman Road could be extended far enough to the north to provide access to the Utility Vault property since the current access would be removed with the construction of the rail maintenance facility.

- Construct street improvements (including sidewalks, curb and gutter) consistent with a minor collector along the project frontage to Barber Street including the segment between Kinsman Road and the main vehicle access and between the railroad tracks and the Utility Vault existing access. Coordinate with City staff for appropriate cross section.

- Prior to occupancy, sight distance at the project access points will need to be verified, documented, and stamped by a registered professional Civil Engineer licensed in the State of Oregon. Documentation will need to be provided to the City of Wilsonville by the applicant for approval.

- Bicycle racks should be provided at convenient locations near the bus platform and rail station uses.

- All sidewalks within the site should conform to ADA requirements.[9]

[9] *ADA Accessibility Guidelines for Buildings and Facilities*, Department of Justice, January 1998.

DKS Associates
TRANSPORTATION SOLUTIONS

Appendix

DKS Associates
TRANSPORTATION SOLUTIONS

MEMORANDUM

DATE: October 10, 2006

TO: Mike Stone, P.E., City of Wilsonville
Jadene Stensland, P.E., City of Wilsonville

FROM: Ransford S. McCourt, P.E., PTOE
Scott Mansur, P.E.

SUBJECT: **Wilsonville Commuter Rail Park and Ride TIS**
Revised Mitigation Summary

P05017-013

The findings of the Washington County Commuter Rail Transportation Impact Study were completed in December of 2005 which included the assumption of the construction of the Kinsman Road extension from Barber Street to Boeckman Road. Based on recent discussions with City of Wilsonville staff, it is our understanding that the Kinsman Road improvement project cannot be assumed as a mitigation to address failing operations at the intersections of Boeckman Road/Boberg Road and Barber Street/Boberg Road. The prior study found that the construction of the Kinsman Road extension would divert a significant portion of the existing and project related traffic from the Washington County Commuter Rail Park and Ride site to Kinsman Road, thus allowing the Boeckman Road/Boberg Road and Barber Street/Boberg Road intersections to operate within levels that are acceptable based upon the City's standards. The following memorandum reevaluates the improvements for these two intersections.

Commuter Rail Existing plus Project plus Stage II Approvals

The following section provides the existing plus Stage II and existing plus Stage II plus Commuter Rail project operating conditions for the Boeckman Road/Boberg Road and Barber Street/Boberg Road intersections as was documented in the *Washington County Commuter Rail Transportation Impact Study*. As shown in Table 1, the intersections of Boeckman Road/Boberg Road and Barber Street/Boberg Road would not meet the City's LOS "D" standard.

Table 1: Existing + Project + Stage II Level of Service Conditions (PM Peak Hour) Without Improvements

Intersection	Existing + Stage II		Existing + Stage II + Project	
	Delay	LOS	Delay	LOS
Two-Way Stop Control				
Barber Street/Boberg Road	16.9	A/C	>50	A/F
Boeckman Road/Boberg Road	>50	A/F	>50	A/F

Delay = Average Stopped Delay per Vehicle (seconds)
LOS = Level of Service
A/A = Major Street LOS/Minor Street LOS
V/C = Volume to Capacity (for signals and all-way stop)

1400 SW Fifth Avenue
Suite 500
Portland, OR 97201-5502

(503) 243-3500
(503) 243-1934 fax
www.dksassociates.com

Res. 2024 Exhibit C

Barber Street/Boberg Road Improvements

In order to improve the failing operations at the Barber Street/Boberg Road intersection, several mitigations have been identified that would allow the intersection to meet the City's level of service requirement. These improvements include relocating the Hollywood Video access, which is the south leg of the intersection to Casting Street to the west. Additionally, modifying the current traffic control at the intersection to an all-way stop was considered (the intersection is a two-way stop controlled intersection today with the Boberg Road and the Hollywood Video approaches being stop controlled). Based on discussions with City staff, the City of Wilsonville plans to relocate the existing south approach, which is an access to Hollywood Video from the Barber Street/Boberg Road intersection to Casting Street to the west. This access would be relocated as part of the Barber Street improvement project.

As shown in Table 2, relocating the Hollywood Video access to Casting Street alone would improve the intersection to level of service "D". Relocating this access would decrease the delay along Boberg Road by allowing the southbound traffic to utilize the acceptable gaps in through traffic on Barber Street without competing with traffic on the south leg of the intersection. The all-way stop control is not needed to meet the City's level of service standard, but this traffic control modification could be utilized when MUTCD all-way stop warrants are met.

Table 2: Barber Street/Boberg Road Mitigated Conditions (Existing + Project + Stage II)

Mitigation	*PM Peak Hour Mitigated*		
	Delay	LOS	V/C
Two-Way Stop Control			
• Relocate Hollywood Video Access to Casting Street	29.5	A/D	
All-Way Stop Control			
• Relocate Hollywood Video Access to Casting Street • Convert intersection to All-way Stop	17.3	C	0.70

Delay = Average Stopped Delay per Vehicle (seconds)
LOS = Level of Service
A/A = Major Street LOS/Minor Street LOS
V/C = Volume to Capacity (for signals and all-way stop)

Boeckman Road/Boberg Road Improvements

At the time the *Washington County Commuter Rail Transportation Impact Study* was completed the Boeckman Road extension project was not funded and therefore could not be included in the future analysis. Since that time, the Boeckman Road extension has received funding and is

planned to be completed in October 2008[1]. This project would reconstruct the Boeckman Road/Boberg Road intersection by building a five lane cross section west of Boberg Road and a three lane cross section east of Boberg Road. The City's Transportation System Plan recommends a five lane Boeckman Road cross section between 95th Avenue to Parkway Avenue. The widening east of Boberg Road would not likely take place until the I-5 over crossing is reconstructed to provide the additional width needed. Unfortunately, this project alone will not improve the operations of the intersection. Additional mitigations beyond the Boeckman improvements were considered including an all-way stop and traffic signal.

As shown in Table 3, the two traffic control device options would provide adequate level of service for the Commuter Rail development. The all-way stop option is the least cost option that would provide adequate level of service. This mitigation would also provide the City flexibility to convert the intersection back to a two-way stop controlled intersection once the Kinsman Road extension is constructed if traffic volumes decrease on Boberg Road. It should be noted that once an intersection is converted to an all-way stop, it can be difficult to convert the intersection back to a two-way stop controlled intersection. MUTCD all-way stop warrants would need to be met in order to convert the intersection to an all-way stop.

The traffic signal option would also provide adequate intersection level of service. A traffic signal at this location would be difficult to operate with the planned traffic signal at the Boeckman Road and 95th Avenue intersection that is located approximately 450 feet to the west. This traffic signal will be constructed as part of the Boeckman Road extension project. Traffic signals at closely spaced intersections can be difficult to operate during peak periods due to queuing spillback that can impact downstream intersections as well as traffic signal coordination. For the long term, installation of a traffic signal at this location would not be desirable. Of note, the PM peak hour traffic signal warrant (MUTCD Warrant #3) is met during the PM peak hour under existing plus Stage II plus project operating conditions at this intersection without the Kinsman Road extension. This alone however does not justify the need for a traffic signal due to the close intersection spacing.

[1] Email from Jadene Stensland, City of Wilsonville, October 9, 2006.

Table 3: Boeckman Road/Boberg Road Mitigated Conditions (Existing + Project + Stage II)

Mitigation	*PM Peak Hour Mitigated* Delay	LOS
Two-Way Stop Control		
• Boeckman Road Extension Improvements	>50	A/F
All-Way Stop Control		
• Boeckman Road Extension Improvements • Convert intersection to All-way Stop	18.3	C 0.71
Signalized		
• Boeckman Road Extension Improvements • Install Traffic Signal	30.3	C 0.67

Delay = Average Stopped Delay per Vehicle (seconds)
LOS = Level of Service
A/A = Major Street LOS/Minor Street LOS
V/C = Volume to Capacity (for signals and all-way stop)

Please call us if you have any questions.

ENGINEERING DEPARTMENT
STAFF REPORT & RECOMMENDATION

DATE: **October 16, 2006**

TO: **Honorable Mayor and City Councilors**

FROM: **Michael A. Stone, PE**
City Engineer

SUBJECT: **Access Management Plan for Barber Street Improvement Project: Phase 1 (Kinsman Road to Boberg Road)**

SUMMARY

The Barber Street Improvement Project: Phase 1 (Kinsman Road to Boberg Road) includes widening Barber Street from approximately 70 feet west of Kinsman Road intersection then to the east, across the railroad tracks and extending approximately 70 feet east of the Boberg Road intersection. As part of the design process, staff considered existing vehicular accesses as well as future access to the Commuter Rail Facility. In accordance with Ordinance Number 551, the City has jurisdiction and regulatory control over its rights-of-way under its City Charter and state law. Therefore, the City has the ability to establish an access control plan for Barber Street.

RECOMMENDATION

Staff respectfully recommends that the City Council approve the attached Access Management Plan for the Barber Street Improvement Project: Phase 1 (Kinsman Road to Boberg Road).

DISCUSSION

The City is not required to provide an access management plan for minor collector streets, such as Barber Street. However, the complexity and timing of the Commuter Rail project, Villebois Development, and Boeckman Road Extension rely significantly on the improvements for Barber Street. Therefore, access management will assist with an overall improvement to the safety and connectivity of the City roadways. (Exhibit A)

The original Commuter Rail Transportation Impact study was complete in December 2005. The results shows that Barber Street will continue to operate as a minor collector street, as stated in the Transportation Systems Plan (TSP). However, Boberg Road at the intersections of both Boeckman Road and Barber Street will operate at Level of Service F (LOS F). (Exhibit B)

The updated memo for the commuter rail facility was completed on October 10, 2006. (Exhibit C) The report states that the Barber Street/Boberg Road as well as the Boeckman Road/Boberg Road intersections mitigated conditions (Existing + Stage 2 + Project) will provide LOS C.

According to Section 4.4.6 Access Management, in the TSP, there are several policies that the City will apply to restrict access.

The policies as outlined in the TSP that apply to Barber Street include:

- Keep the number of road approaches to a minimum to reduce conflict points with the through movement.
- Locate driveways on the minor street for properties with frontage on an arterial or collector and a minor street, whenever possible.
- Maintain sight distance on all road approaches and driveways. If practicable, approaches should be relocated or closed in cases where sight limitations create undue hazards.
- Median barriers should be installed to control left-turn conflicts.

It is also City policy, and common engineering practice, that driveway access locations shall be coordinated and aligned with driveways on the opposite side of the street. This helps control turning movement conflicts between the two driveways.

Access Modifications

The following existing accesses are proposed to be modified in part or in full:

Access Point ID Number	Tax Lot	Site Address	Access Status
1B	31W14ATL1500	9215 SW Barber Street	None
2B	31W14DTL1911	9275 SW Peyton Lane	None
3B	31W14ATL1603	9275 SW Barber Street	RI
5C	31W14DTL1913	9400 SW Barber Street	LIRO
7	31W14BTL900	Washington Co. – Private Road	RIRO
8A	31W14CTL103	9750 SW Barber Street	None
8D	31W14CTL103	9750 SW Barber Street	None
10B	31W14CTL100	12103 SW Kinsman Road	None

Access Point Number 1B is one of three existing access driveways to the parcel. This access is in close proximity to Access Point Number 1A, which may cause turning movement conflicts. With cooperation with the Owner, this access will be closed and Access Point Number 1A will be widened to 30 feet.

Access Point Number 2B provided access to the western parking lot of the parcel. The Owners and Tenant requested the access closure after original discussions of moving the access driveway to the East, closer to the building. The closure and 3-way stop signage improves the Barber Street/Boberg Road intersection to a LOS C.

Access Point Number 3B is one of three existing access driveways to the parcel and is located on the eastern end of the parcel, adjacent to Barber Street. This access is in close proximity to Boberg Road, which may cause turning movement conflicts. Therefore the proposed median

and signage will restrict this access to a right-in, right out only driveway. Due to safety concerns at this access, in the future, when the intersection is signalized, this access will be closed.

Access Point Number 5C is one of three existing access driveways to the parcel and is located on the western end of the parcel, adjacent to Barber Street. The driveway is the only access to the western side of the building. Due to its close proximity to the railroad tracks, and the angle of the driveway, the proposed median will restrict this access to a left-in, right-out only driveway.

Access Point Number 7 provided access to the parcel as well as Access Point Number 6B. As part of the required railroad crossing improvements, the City is constructing a median in the center turn lane as a safety measure. Due to its close proximity to the railroad tracks, the proposed median will restrict this access to a right-in, right-out driveway.

Access Point Number 8A is one of five existing access driveways to the parcel and is located on the eastern end of the parcel, adjacent to Barber Street. Due to its close proximity to the railroad tracks, this access will be closed and Access Point Number 8B will be widened to 40 feet.

Access Point Number 8D is one of five existing access driveways to the parcel and is located on the western end of the parcel, adjacent to Barber Street. This access is in close proximity to Access Point Number 8E, which may cause turning movement conflicts. With cooperation with the Owner, this access will be closed and Access Point Number 8E will be connected to the parking area.

Access Point Number 10B is one of three existing access driveways to the parcel and is located on the eastern end of the parcel, adjacent to Barber Street. Due to the driveway's close proximity this access will be in conflict with the reconfiguration of the Barber Street/Kinsman Road intersection. With cooperation with the Owner, this access will be closed and Access Point Number 10C will be temporarily connected to the northern parking area.

New Access Locations

The following accesses are new to provide future service to the subject properties:

Access Point ID Number	Tax Lot	Address	Access Status
2C	31W14DTL1911	9275 SW Peyton Lane	Full
8F	31W14CTL103	9750 SW Barber Street	Full
9A	31W14BTL700	28845 SW Barber Street	Full
9B	31W14BTL700	28845 SW Barber Street	Full
10C	31W14CTL100	12103 SW Kinsman Road	Full
10D	31W14CTL100	12103 SW Kinsman Road	Full

The proposed location for Access Point Number 2C is requested by the Owners and Tenants. The new access will allow vehicles to enter the parking lot, when Access Point Number 2B is closed.

The proposed location for Access Point Number 8F is requested by the Owner. The new access will allow trucks to enter the facility, when Access Point Number 8D is closed and Access Point Number 8E is converted to car access only. Moving the truck traffic to Kinsman Road will provide for a safer access to the Commuter Rail Facility by reducing the conflict on Barber Street between commuters and truck deliveries. Truck turning movements will be better using Kinsman Road, since reversed traffic flow patterns will no longer be used for internal traffic flow. A minimum number of smaller diameter trees will be removed to provide this access route.

The proposed location for Access Point Number 9A was established to provide an entrance for the SMART Transit Center at the Commuter Rail Facility. It is based upon providing an access to each property and the policy to locate accesses across from each other. The proposed access is located across from the proposed Access Point Number 8B.

The proposed location for Access Point Number 9B was established to provide an entrance for the Commuter Rail Park and Ride Facility. It is based upon providing an access to each property and the policy to locate accesses across from each other. The proposed access is located across from the proposed Access Point Number 8E.

The proposed location for Access Point Number 10C was established to provide a temporary access to the north end of the property. This access is for temporary use and will be removed when West-side Barber Street improvements are completed in the future.

The proposed location for Access Point Number 10D was established to provide a future access to the north end of the property. This access is not accessible until the West-side Barber Street improvements are completed in the future.

Existing Accesses

The following existing accesses will not have their access configuration modified with this project. Improvements will be made to tie in the existing driveway to the street widening improvements:

Access Point ID Number	Tax Lot	Site Address	Access Status
1A	31W14ATL1500	9215 SW Barber Street	Full
1C	31W14ATL1500	9215 SW Barber Street	Full
2A	21W14DTL1911	9275 SW Peyton Lane	Full
3A	31W14ATL1603	9275 SW Barber Street	Full
3C	31W14ATL1603	9275 SW Barber Street	Full
4	31W14ATL1602	9325 SW Barber Street	Full
5A	31W14DTL1913	9400 SW Barber Street	Full
5B	31W14DTL1913	9400 SW Barber Street	Full
6A	31W14ATL1601	9373 SW Barber Street	Full
6B	31W14ATL1601	9373 SW Barber Street	Full
8B	31W14CTL103	9750 SW Barber Street	Full
8C	31W14CTL103	9750 SW Barber Street	Full

8E	31W14CTL103	9750 SW Barber Street	Full
10A	31W14CTL100	12103 SW Kinsman Road	Full

CONCLUSION

The proposed access control has been planned and located in a manner for the best interest of the public's health, safety and welfare.