URS

Project Memorandum

To: **Eli Cooper, David Dykman**
(City of Ann Arobr)

From: **Robert Gorski, Luke Liu**
(URS)

Client: City of Ann Arbor
Project Name: Ann Arbor Station EA
Location: Ann Arbor, MI
URS Project No.: 12944234
Issue Date: September 8, 2014

Subject: **Ann Arbor Station Environmental Assessment – Segment 4 – Transportation Draft**

As part of the Ann Arbor Station Environmental Assessment, URS is submitting draft analysis result for the transportation portion of Segment 4, existing train station site. Trip generation assumptions and initial traffic analysis results are included in this memo. Traffic models for Segment 4 were prepared based on traffic volume data collected during recent transportation studies at locations near the Segment 4 project area.

Trip Generation

Trip generation for Ann Arbor Station Segment 4 is shown in Table 1, as follows.

Table 1. Ann Arbor Station Trip Generation for Segment 4

	Amtrak	**Commuter Rail**
Train Daily Round Trips (DRT)	10	15
Yearly Ridership	974,000	395,000
Daily Ridership	2,668	1,514
AM Peak Period (7A-9A) Boardings	267	242
AM Peak Period (7A-9A) Alightings	267	363
AM Peak Hour Boardings	133	121
AM Peak Hour Alightings	133	182
PM Peak Period (4P-6P) Boardings	267	363
PM Peak Period (4P-6P) Alightings	267	242
PM Peak Hour Boardings	133	182
PM Peak Hour Alightings	133	121

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The following items were assumed for trip generation related to Amtrak service.

- Even distribution of passengers across Daily Round Trips (DRT)
- One DRT service during each peak hour
- 50% boarding & 50% alighting of trips at Ann Arbor Station

The following items were assumed for trip generation related to Commuter Rail service.

- 40% of daily trips during each peak period
- 20% of daily trips during each peak hour
- AM Peak, 40% boarding and 60% alighting at Ann Arbor Station
- PM Peak, 60% boarding and 40% alighting at Ann Arbor Station

The analysis further assumed the following trip reduction factors due to vehicle sharing and transit service.

- 10% multimodal reduction
- 5% pedestrian reduction
- 10% vehicle occupancy reduction

The final vehicle trips generated for Ann Arbor Station Segment 4 include:

- 195 vehicles per hour ingress and 102 vehicles per hour egress during the AM peak hour
- 102 vehicles per hour ingress and 195 vehicles per hour egress during the PM peak hour

Traffic Operations at Site Access

Existing and future year expected traffic volumes at Segment 4 driveway are summarized in Table 2.

Table 2. Traffic Volumes at Segment 4 Drive
(vehicles per hour, AM Peak Hour/PM Peak Hour)

Intersection	**Movement**	**Existing** (2014)	**Horizon Year No Build** (2040)	**Horizon Year with Site Traffic**
Broadway at Segment 4 Drive	EB Broadway Left	35/35	35/35	124/64
	EB Broadway Thru	715/930	785/1020	785/1020
	WB Broadway Thru	415/545	450/595	450/595
	WB Broadway Right	20/20	20/20	71/38
	AAS Drive Left	35/35	35/35	65/123
	AAS Drive Right	20/20	20/20	37/72

Operational analysis results, as shown in Table 3, indicate that signalized traffic control is likely needed at the station driveway to mitigate potential excessive control delay if the driveway is kept stop controlled. Complete signal warrant analysis was not conducted as 24-hour machine counts were not available.

Table 3. Traffic Operational Conditions at Segment 4 Drive
(seconds, AM Peak Hour/PM Peak Hour)

Intersection	**Movement**	**Existing** (2014)	**Horizon Year No Build** (2040)	**Horizon Year Build** (w/o mitigation)	**Horizon Year Build** (with mitigation)
Broadway at Segment 4 Drive	EB Broadway	1.4(A) / 1.3(A)	1.3(A) / 1.3(A)	3.9(A) / 2.2(A)	2.4(A) / 2.1(A)
	WB Broadway	-- / --	-- / --	-- / --	1.6(A) / 3.5(A)
	AAS Drive	17.8(C) / 24.4(C)	19.5(C) / 28.1(D)	39.9(E) / 151.9(F)	38.4(D) / 41.4(D)

Should you have questions regarding this memo, please feel free to contact me at (313) 961-3418.

Sincerely,

Signed: Robert Gorski, PE
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