




# office memorandum

**DATE:** March 5, 2015

**TO:** Shawn O'Leary, Director of Public Works

**FROM:** Angelo A. Lombardo, Transportation Engineer 

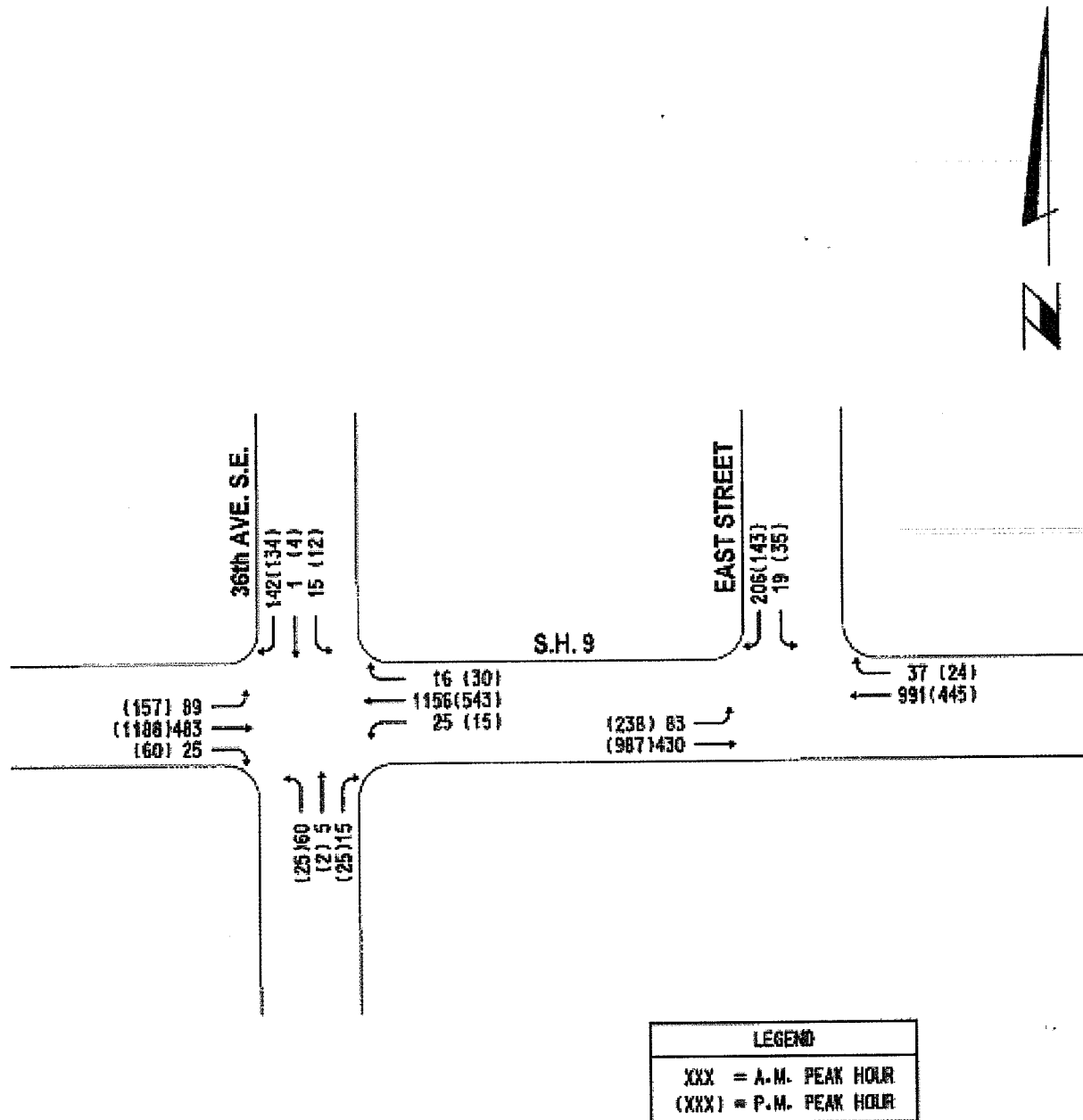
**SUBJECT:** Bellatona Addition Traffic Impacts

During the March 3, 2015 Study Session, Council raised a number of traffic concerns related to the impacts of granting or not granting the Bellatona Addition full access to SH-9 east of 36<sup>th</sup> Avenue SE.

The following information is presented to help frame the discussion in terms of the assumptions made as part of the preparation of the Traffic Impact Study (TIA), which was required with the plat approval process, as well as the potential impacts associated with a change of those assumptions, particularly as it relates to access in and out of the development.

Traffic volumes for the SH-9 intersections with 36<sup>th</sup> Avenue SE and Bellatona Boulevard (the proposed Bellatona access to SH-9 approximately ¼ mile east of 36<sup>th</sup> Avenue SE) were collected, projected and established in 2009 as part of the preparation of the TIA prepared by Traffic Engineering Consultants (TEC) for the Revised Preliminary Plat of Summit Valley Addition. The firm of TEC was hired by the developer. When the developer submitted the Preliminary Plat for Bellatona Addition in July of 2013, the 2009 TIA was updated to reflect a slightly lower number of residential lots and the data was used to set up a traffic model of the a.m. and p.m. peak periods under a scenario that included a full-access signalized intersection at 36<sup>th</sup> Avenue SE (to serve Summit Valley Addition) and a full access unsignalized intersection at Bellatona Boulevard (to serve the Bellatona Addition).

The volumes from which these scenarios were generated are depicted in the following figure (Figure 9) from the 2009 Traffic Impact Study prepared by TEC. The total projected traffic accounts for a fully developed Ballatona Addition as well as traffic flow increases on State Highway 9 based on historical growth patterns. Traffic projections were developed using the latest edition of the Institute of Traffic Engineers Trip Generation Manual.



The model was used to determine the length of lane storage required for the eastbound projected left turning traffic at both the 36<sup>th</sup> Avenue SE and the Bellatona Boulevard intersections and is shown in the following figure (Figure 1) provided by TEC as part of TIA. The schematic also shows the 1,285 feet separation between the 36<sup>th</sup> Avenue SE and Bellatona Boulevard intersections.

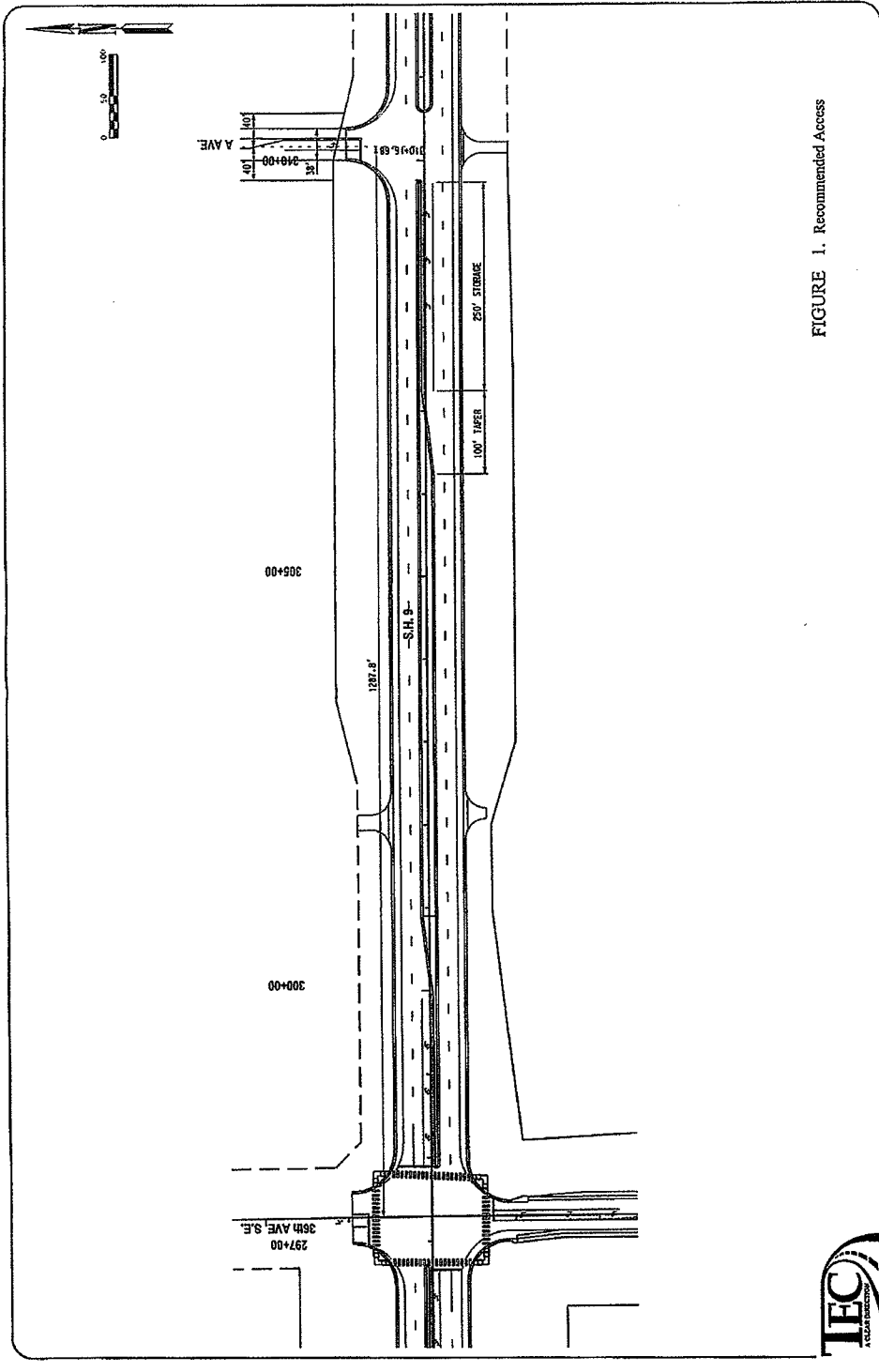


FIGURE 1. Recommended Access



The results of the operational analysis, which were summarized in Table 2 of the TIA report, are presented below:

**TABLE 2.**  
**CAPACITY ANALYSIS RESULTS**  
**Projected Future 2019 Traffic Conditions and Future SH 9 Roadway Conditions**

Intersection	Type of Traffic Control	AM Peak Hour				PM Peak Hour			
		Critical Approach		Intersection		Critical Approach		Intersection	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
SH 9 and 36th AVE SE	Unsignalized	* / NB	F	24.5	C	* / NB	F	16.7	B
SH 9 and East Street	Unsignalized	21.3 / SB	C	3.3	A	25.5 / SB	D	3.6	A
<b>Signalized Condition</b>									
SH 9 and 36th AVE SE	Signalized	16.6 / NB	B	10.2	B	19.0 / NB	B	12.7	B

\* Indicates the delay exceeds 100 seconds per vehicle

With the recommended improvements and number of access points included in the TIA, traffic along SH 9 is anticipated to operate at acceptable levels of service once the area is fully developed. Any access restriction at the Bellatona Boulevard intersection will shift traffic to the 36<sup>th</sup> Avenue SE intersection which lacks the capacity to serve the increased volume. Of particular concern is the eastbound left turn movement, which if concentrated at the 36<sup>th</sup> Avenue SE intersection, increases from 157 to 395 vehicles per hour during the p.m. peak period.

AAL