



DAVID EVANS
AND ASSOCIATES INC.

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May 3, 2012

Ms. Claudia Oates, P.E.
Development Review Engineer
City of Mount Vernon
Community and Economic Development Department
P.O. Box 809
Mount Vernon, WA 98273

**SUBJECT: MOUNT VERNON SCHOOL DISTRICT (MVSD) EAST DIVISION ELEMENTARY
SCHOOL CONCURRENCY REVIEW**

Dear Ms. Oates:

The following review comments are provided based on the traffic concurrency analysis for the Mount Vernon School District (MVSD) East Division Elementary School. The Traffic Concurrency Form, including a Project Description and a site plan, was submitted to the City of Mount Vernon (City) by the MVSD East Division Elementary School Applicant on April 29, 2012.

Project Description

The proposed project is located in the northeast quadrant of the intersection of East Division Street/Skagit Highlands Parkway, specifically in the Section 22, Township 34 North, Range 4 East, and the Parcel Number of P27512. The existing project site is currently vacant and covered by trees.

The project proposes a single school building on a 9.4-acre site. An elementary school building typically would include administrative office and classroom areas, multi-purpose, gymnasium, food service areas, and other ancillary space for educational programming and support purposes. The new building is anticipated to be two stories, approximately 58,000 square feet (sf) and designed to serve 550-600 students in grades K through five. In addition, there would likely be 3,000-5,000 sf of covered play and/or waiting areas as well as parking for staff and visitors, hard and soft surface play areas, parent pickup and drop off circulation, bus pickup and drop off circulation, fire lane, utilities, drainage, and landscaping.

The School District will employ 75 full or part time staff for this school. The project will include 140 parking spaces for staff, visitors, and event parking.

The project is anticipated to be constructed in a single phase, with construction commencing in 2013 and occupancy occurring during the fall of 2014. One driveway access connecting East Division Street is proposed on the south of the project site.



Trip Generation and Trip Distribution

The trip generation method documented in the Institute of Transportation Engineers (ITE) *Trip Generation* (8th Edition) was used to calculate the project-generated trips. It is typical to use trip generation rates or equations to estimate the project-generated trips for the PM peak hour (one hour between 4:00 and 6:00 PM) of adjacent street traffic on a weekday basis, when the combination of project-generated traffic and adjacent street traffic is usually at its highest level. The project is planned to include 75 full or part time staff, 550 students on a 58,000 sf school building. Due to early-dismissed time for students and staff's various schedules, using the land use category of staff or students to calculate the project-generated trips will yield higher trip generation in the PM peak hour compared to using the land use category of building square footage. Therefore, the land use category of building square footage of Elementary School (Land Use Code 520) was chosen to estimate the trips of the proposed project. The ITE land use category, average trip generation rate, directional split, and project-generated net new trips are shown in **Table 1**. There are 70 net new project-generated trips, of which there are 31 entering trips and 39 exiting trips. This represents a conservative estimate of pre-peak hour operations and addresses any off-peak impacts the school could generate.

Table 1. Project Trip Generation

Description	Land Use Code	Quantity	ITE Average Trip Rate	ITE Trips	Entering Percent	Exiting Percent	Entering Trips	Exiting Trips
East Division Elementary School Building Square Footage	LUC-520	58,000 sf	1.21 trip/1,000 sf	70	45%	55%	31	39
Project-Generated Net New Trips	-	-	-	70	45%	55%	31	39

The City's pipeline land use was updated by adding the MVSD East Division Elementary School. In this concurrency test, the following pipeline land use was also removed from the pipeline land use inventory per the City's instruction:

- Finishing Touch (removed in previous all concurrency tests)
- Skagit Meadows (24 apartment units)
- Winco Food Shopping Center (removed in previous concurrency tests)
- Hidden Lakes Residential Development (365 single-family residential units)
- Eagle Healthcare on Blackburn Road (Nursing facility of 45,000 sf and 52 assisted living units)
- Rock Crest Residential Development (194 single-family residential units)

The citywide Mount Vernon Traffic Forecasting Model was updated with the City's latest pipeline land use. The net new trips of the project were assigned among the updated citywide Traffic Forecasting Model. The project-generated trip distribution citywide is shown in **Figure 1** and the trip distribution around the project site is shown in **Figure 2**.

Figure 2 indicates that most of the project-generated trips are present on East Division Street east of North Waugh Road and on North Waugh Road north of East Division Street.



Figure 1. Development Project Trip Distribution (Citywide)

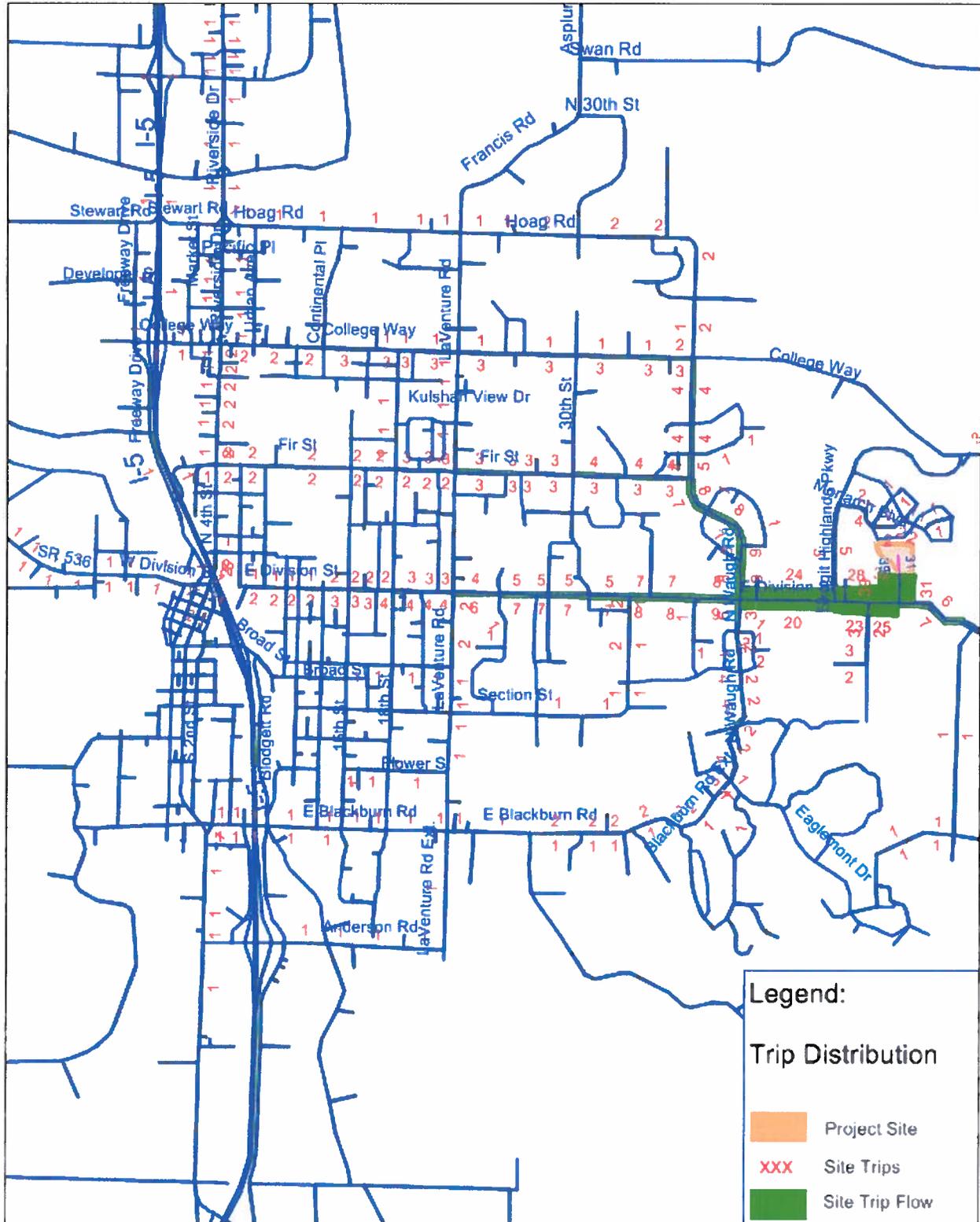
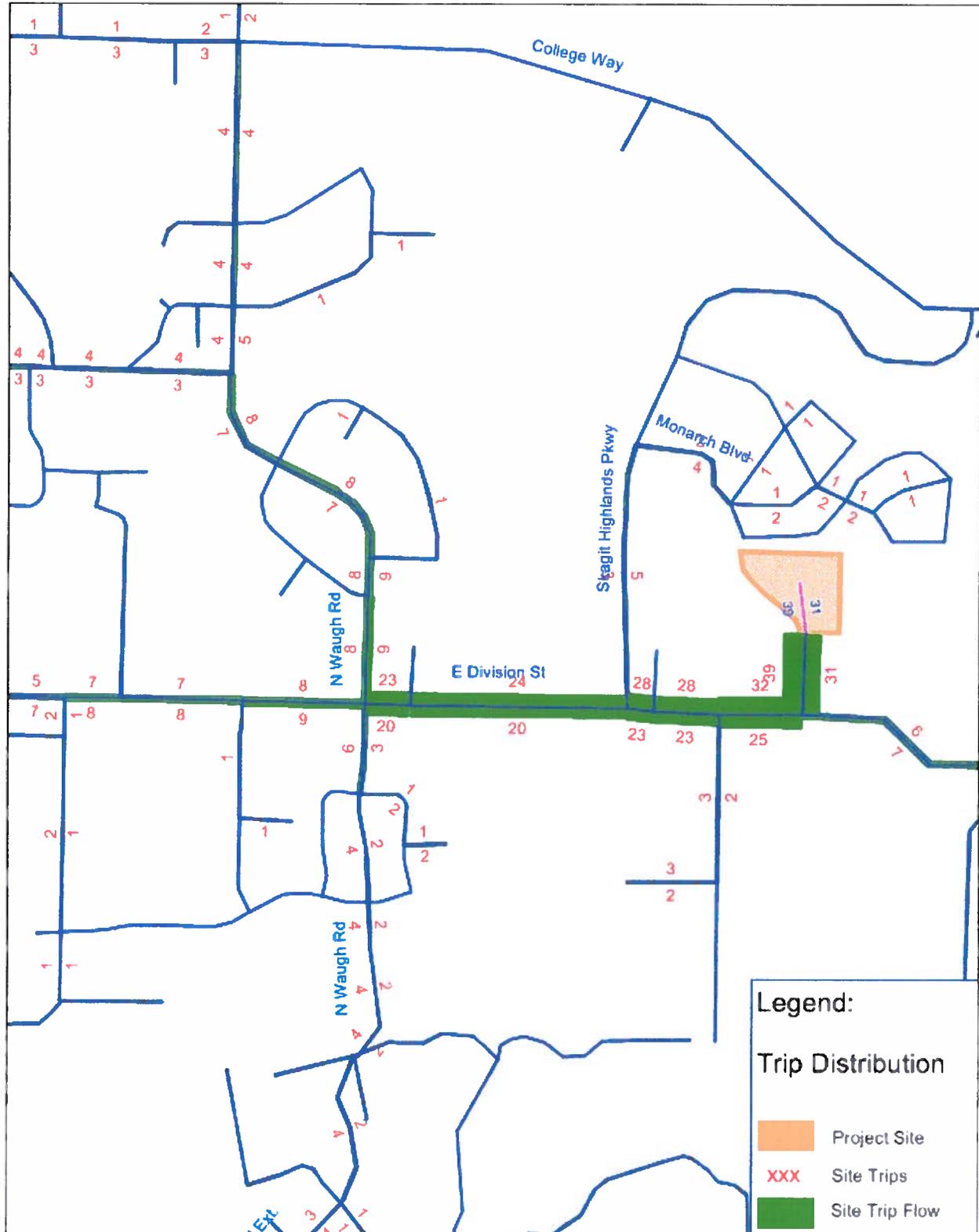




Figure 2. Development Project Trip Distribution (Around the Site)





14.10 Concurrency Requirements Review

The review is based on the following Level of Service (LOS) standards and concurrency requirements:

- Level of service standards stated in 14.10.080
- Concurrency requirements of “Category C: Thirty to 75 Peak Hour Trips” stated in 14.10.090

Compliance with LOS standards will be based on the following criteria in the categories indicated.

A. Pedestrian Safety LOS: There is no sidewalk present on East Division Street east of Skagit Highlands Parkway. The site-generated pedestrian trips and vehicular trips warrant pedestrian facilities for the project frontage along East Division Street. The project is required to provide pedestrian facilities, including an adequate connection to the existing pedestrian facilities provided on East Division Street west of Skagit Highlands Parkway. Minimum pedestrian LOS standards will be met by the site frontage improvements.

B. Traffic Capacity LOS: Intersections and segments impacted by project-generated trips should be evaluated for traffic capacity LOS.

As shown in **Figure 1**, the majority of the project-generated trips are present on East Division Street east of North Waugh Road and on North Waugh Road north of East Division Street. The maximum project-generated trips (57 trips) are present on East Division Street east of North Waugh Road, and less than 20 project-generated trips occur on other roads. Roadway segment capacity LOS deficiencies are not expected because a relatively small number of project-generated trips are present on the roadway network during the PM Peak Hour.

Intersection LOS analysis indicates that the project-generated trips are present at 10 intersections with LOS deficiencies. The 10 deficient intersections are shown in **Table 2**. The maximum site trips (four trips) are present on the deficient intersections, no physical improvements are proposed.

The LOS deficiencies at the 10 intersections are mostly the result of background traffic growth (the project-generated trips added longer delay at these intersections). The 10 intersections are unsignalized. Nine of them are two-way stop-control intersections, and one of them is a four-way stop-control intersection. The traffic volumes on side streets are usually low and a signal warrant is not met at most intersections.

The four-way stop-control intersection of Waugh Road and East Division Street is assumed to be a roundabout within 6-years based upon requirements of previous development approvals.



Table 2. Intersection with LOS Deficiency and Site Trips

No.	Intersection Name	Control Type	LOS	Delay (seconds)	Site Trips	Proposed Mitigation
1100	E College Way and 30th St	Two-Way Stop	E	46.9	4	Tolerate due to low volumes on side streets
5314	E College Way and Leigh Way	Two-Way Stop	F	402.4	2	
873	Anderson Rd and Cedardale Rd	Two-Way Stop	F	683.3	1	Signalization or roundabout recommended in the next six years
761	E Fir St and N 15th St	Two-Way Stop	F	105.9	4	Tolerate due to low volumes on side streets
723	Hoag Rd and Continental Pl	Two-Way Stop	E	41.8	1	
855	Blackburn Rd and Blodgett Rd	Two-Way Stop	F	9999	2	Signalization or roundabout Signalization or roundabout or roundabout recommended in the next 6 years
724	Hoag Rd and N Laventure Rd	Four-Way Stop	F	73	1	Proposed to be signalized by previous development
1085	W Montgomery St and S 1st St	Two-Way Stop	F	61.2	2	
870	Anderson Rd and Old Hwy 99 S Rd	Two-Way Stop	F	75.2	1	Tolerate due to insignificant project-impacted trips and low volumes on side streets
874	Anderson Rd and Blodgett Rd	Two-Way Stop	F	97.8	1	Signalization or roundabout or roundabout recommended in the next 6 years

C. Street Design Standard LOS: The site fronts on East Division Street on the south side. East Division Street is classified as a minor arterial. Street design LOS standards require that a three-quarter street improvement be in place on the project frontage street (East Division Street). The street system shall consist of sidewalk, curb, gutter, all utilities and appurtenances, and one-half of the ultimate pavement width on the development side of the right-of-way, plus a minimum 14-foot pavement width on the opposite side of the street.

D. On-Site LOS: On-site LOS is assumed to be adequate, providing all on-site roadways meet applicable City standards. The proposed site access intersection at East Division Street with two-way stop-control on the driveway accesses meets the intersection LOS standards.

E. Transit LOS: This is not applicable because no transit route is present near the project site.

F. Non-motorized Transportation LOS: This is not applicable because no trail is present near the project site.

G. Pavement Condition LOS: The existing pavement on East Division Street is in good condition. The three-quarter street LOS improvements will maintain the good pavement condition on East Division Street.

Findings



The project will generate approximately 70 net new peak trips, however most of them will fall outside the typical PM peak Hour.

The proposed project will not result in roadway segment LOS deficiencies.

Intersection LOS deficiencies are present at 10 intersections within the project-generated trips impact area. The LOS deficiencies at these intersections are mostly a result of the background traffic growth and the side street traffic is usually low; therefore, no physical improvements are required at most intersections.

Recommended Conditions

Following are the recommended conditions of approval for this project:

- Site frontage improvements on East Division Street per MVMC 14.10.080: Three-quarter street LOS improvements must be in place on the project frontage street (East Division Street) between Skagit Highlands Parkway and the site access on the east. The street system shall consist of sidewalk, curb, gutter, all utilities and appurtenances, and one-half of the ultimate pavement width on the development side of the right-of-way, plus a minimum 14-foot pavement width on the opposite side of the street. The total width shall not exceed the ultimate design width. This will include, but not be limited to, traffic control, drainage and other utilities, pedestrian facilities, transportation facility design, construction, right-of-way, and easement dedications, for all transportation facilities, including frontage improvements and arterial connections in conformance with criteria set forth in the ultimate design LOS.
- Impact fees are excluded for private and public schools. Therefore, the total project impact fees are zero.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Min Luo, P.E., PTOE
Traffic Engineer

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