



CITY OF KIRKLAND
Department of Public Works
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Memorandum

To: Janice Coogan, Senior Planner
From: Thang Nguyen, Transportation Engineer
Date: April 30, 2013
Subject: C & G Subdivision Development, Tran12-00528

This memo summarizes Public Works' review of the proposed C&G Subdivision development traffic impact analysis report dated January 2013 prepared by the Transpo Group. Public Works' recommendations and approval are outlined at the end of this memo.

Project Description

The applicant is proposing to construct a subdivision development with 36 single family units on a vacant lot. The proposed project is calculated to generate 400 daily, 34 AM peak hour and 41 PM peak net new vehicle trips. Access to the development site will be from NE 80th Street and NE 75th Street via a new connector road; 128th Avenue NE. The development is forecasted to be completed by the end of 2014.

The proposed project was tested for traffic concurrency with a road connection to NE 80th Street and passed traffic concurrency. Per *Section 25.10.020 Procedures* of the KMC, this Concurrency Test Notice will expire in one year (May 11, 2013) unless a development permit and certificate of concurrency are issued or an extension is granted.

Traffic Impacts

The traffic report was completed as outlined by Public Works and followed the City of Kirkland TIA guidelines. Project traffic distribution and assignment was estimated using the City's BKR Traffic Model.

The City 's Traffic Impact Analysis Guidelines (TIAG) requires a Level of Service (LOS) Analysis using the Highway Capacity Manual Operational Method for intersections that have proportionate share greater than 1%. Six intersections were analyzed for level of service. They include:

- 128th Avenue NE/NE 75th Street
- 126th Avenue NE /NE 73rd Street
- 126th Avenue NE/NE 80th Street

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- 128th Avenue NE/NE 80th Street
- 130th Avenue NE/NE 80th Street and
- 130th Avenue NE/NE 75th Street

In particular, the intersection of 128th Avenue NE/NE 80th Street was analyzed for the AM, Mid-day school peak and PM peak hours.

Future 2014 traffic conditions with the proposed development also included project traffic from other pipeline developments that are forecasted to be built by 2014.

The City requires developers to mitigate traffic impacts when one or both of the following two conditions are met:

1. An intersection level of service is at E and the project traffic is more than 15% of the intersection traffic volumes.
2. An intersection level of service is at F and the project traffic is more than 5% of the intersection traffic volumes.

All the analyzed intersections are forecasted at an acceptable level of service C or better. Thus, based on the mitigation standards, off-site traffic mitigation based on the intersection level of service is not warranted.

Traffic Volumes and Patterns

Traffic on NE 80th Street- NE 80th Street carries approximately 4,700 vehicles daily east of 124th Avenue NE and approximately 500 vehicles during the AM and PM peak hours. These volumes are typical for a local street. Historical counts, indicate that the traffic volumes on NE 80th Street have been decreasing by approximately 6% per year since 2007.

The BKR traffic model was used to estimate the distribution of project traffic. Approximately 55% (220 daily, 19 AM peak and 23 PM peak hour trips) of the project traffic would use NE 70th Street and 45% would use NE 80th Street (180 daily, 15 AM peak and 18 PM peak hour trips). Existing traffic confirms the validity of the traffic model trip distribution.

Existing PM traffic counts show that traffic volume is very low on NE 75th Street (less than 30 PM peak hour trips). If there is any traffic diversion due to the new 128th Avenue NE connection, it is anticipated to be low. Even if all existing traffic from NE 75th Street diverged to use the new 128th Avenue NE connection to access NE 80th Street, its impact to the intersection of NE 80th Street and 128th Avenue NE would not be significant enough to require SEPA mitigation.

During the morning school peak, it is anticipated that there will be 15 additional project trip added to NE 80th Street as a result of the project. During the school afternoon peak, there would be less than five project trips impacting NE 80th Street. The amount of AM and PM peak hours project traffic added to the surrounding streets is found to have negligible traffic impact.

Driveway Operation

The intersection of 128th Avenue NE/NE 80th Street is forecasted to operate at an acceptable level of service and safely. To the north, 128th Avenue NE will be controlled with a STOP sign as it intersects with NE 80th Street. Based on the forecasted traffic volumes, the intersection does not meet warrants for a traffic signal. There are no roadway conditions or recurring accident pattern that would make the intersection unsafe. The intersection meets the City's safe sight distance requirements. Based on the operation and safety analysis and the City's standards for mitigation, no traffic mitigation is warranted.

In response to concerns on project traffic impact to pedestrians using the crosswalk at NE 80th Street/128th Avenue NE, the developer has agreed with the City to install a Rectangular Rapid Flashing Beacon- RRFB (flashing crosswalk light) system to make the intersection safer for pedestrians.

A stop sign will control the new 128th Avenue NE road connection to NE 75th Street and the new intersection is calculated to operate at level of service LOS-A. The new 128th Avenue NE connection to NE 75th Street will be off-set from the existing 128th Avenue NE from the south. Thus, a Stop sign will also need to be installed on the south leg of the existing NE 75th Street/128th Avenue NE intersection. Based on the sight distance analysis, the intersection will meet the City's safe sight distance standards. Thus, no other traffic mitigation is warranted.

Sidewalks

Complete sidewalks are only on the east side of 128th Avenue NE from NE 80th Street to NE 85th Street, most of the west side of the street does not have sidewalk. Complete sidewalks are only on the north side of NE 80th Street between 120th Avenue NE and 132nd Avenue NE. Most of the south side of the street has curb, gutter and sidewalks but there are sections that only have narrow sidewalks and no curb and gutter. Both sides of the street have bike lanes. The traffic study report inaccurately stated that there are sidewalks on both sides of 128th Avenue NE and NE 80th Street.

Per the City frontage improvement guideline, the developer is not required to construct curbs, gutters and sidewalks outside of the project property to NE 80th Street. However, the developer has agreed to construct curbs and gutters on both side of the new 128th Avenue NE within the project property and sidewalk on one side within the project property that would extend to NE 80th Street making a complete sidewalk connection from NE 75th Street to NE 80th Street.

There are two small sections of missing sidewalks on the south side of the intersection of NE 80th Street and 128th Avenue NE. Those two small missing sections of sidewalks should be constructed with the installation of the RRFB at the intersection to provide safe refuge and crossing for pedestrians. Furthermore since the RRFB and crosswalk is on the east side on 128th Avenue NE, the future sidewalk within the development extending to NE 80th Street should also be located to the east side of the street to provide continuity and minimize pedestrian crossing.

Parking

Parking will be provided on-site to meet the City's parking code requirements.

Public Comments

Staff has received comments and concerns from the public regarding existing traffic and the development traffic impacts on NE 80th Street and on the new 128th Avenue NE connection that will be constructed with the proposed project. Public concerns include: speeding, high traffic volumes, pedestrian and bicyclist safety, traffic accidents, need for better sidewalks, accessibility, project traffic forecast and traffic diversion due to the new 128th Avenue NE connection to NE 80th Street.

Roadway Connectivity

Some public comments suggest that the 128th Avenue NE connection is contrary to the City Comprehensive Plan and creates unnecessary traffic impacts.

The City of Kirkland comprehensive Plan Policy T-4.3 states: Maintain a system of arterials, collectors, and local access streets that forms an inter-connected network for vehicular circulation. Policy T-4.5 states : Maintain and improve convenient access for emergency vehicles. These two policies encourage a "grid" system road network to minimize cul-de-sacs, uneven trip distribution through the road network and to minimize impacts onto close-by neighborhood streets and to maintain and provide direct access for emergency vehicles.

The City of Kirkland has an adopted street functional classification system. The purpose of this system is to ensure that a system of roadways and streets provides a balanced relationship between mobility and land access. Mobility is the ability to efficiently travel along the roadway system, while land access is the ease of being able to connect to a particular development or parcel of land.

These classifications signify differing levels of accommodation for mobility and land access. The classification is hierarchical by the amount of travel mobility provided. Principal arterials primarily provide mobility, while local streets focus on providing land access. Table 1 summarizes the street functional classification system.

Table1. Functional classification

Functional	Mobility	Access to	Traffic	Speed
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Classification		Property	Volumes	
Highways(Freeway)	Highest	No Direct Access	Highest	40+ mph
Principal Arterials	High	Minimum	High	30 to 40 mph
Minor Arterials	Moderate	Moderate	Moderate	30 to 35 mph
Collectors	Low	Higher	Moderate to Low	25 to 30 mph
Local Streets	Very Low	Highest	Low	25 mph

The project site fronts a local street to the south (NE 75th Street) and has a connection to a dead-end street to the north (128th Avenue NE) which connects to NE 80th Street, a collector. The development will construct and extend 128th Avenue NE to the south through the development to connect NE 80th Street with NE 75th Street. This will provide shorter and more convenient access to the collector streets and minimize unnecessary traffic impact to local streets to the south and to the east of the project site.

Existing Speed

Residents are concerned about excessive speed on NE 80th Street. The City has plans to narrow the travel lanes to ten feet in width using restriping to slow down traffic. As a result, the bike lanes will be widened and or buffered to improve bicycle safety. The restriping is scheduled to be done during the summer of this year.

Some public comments suggest installing speed humps on NE 80th Street to deter pass-through traffic from NE 85th Street and other routes. The City is working to improve the traffic flow on NE 85th Street through signal timing, access management and Intelligent Transportation System (ITS) to minimize drivers from using collector and local streets as diversionary pass-through routes.

Pedestrian safety

There is also concern that there will be significant traffic diverted to use the new connection at NE 80th Street and pedestrian safety will be significantly impacted there.

As discussed in the **Traffic Volumes and Patterns** section of this memo, the traffic diversion due to the new 128th Avenue connection is forecast to be small. The intersection of NE 80th Street and 128th Avenue NE (controlled by stop signs on 128th Avenue NE) will operate at a good level of service based on the City's level of service standard. The traffic volume with the proposed project does not meet warrants for installing a traffic signal. Furthermore, the applicant is proposing to install an RRFB flashing crosswalk light system at the intersection to improve pedestrian crossing. This location is staffed by adult crossing guards during school arrival and dismissal times.

Some comments from the public suggested that traffic/pedestrian accidents along NE 80th Street were the result of poor roadway design or excessive speeding. Staff has

reviewed the police reports on the accidents that occurred along NE 80th Street and did not find any pattern to suggest roadway design or speeding as contributing factors.

The accidents are isolated incidents that have no relation to the proposed development. There is not a pattern that would suggest the increase traffic from the proposed development would contribute to more traffic accidents.

Nevertheless, the City is always concerned about traffic accidents and school zone safety is a City priority. The City will continue to work with the SRHNA to find solutions to improve NE 80th Street and minimize traffic accidents.

Under SEPA, the City cannot require a developer to mitigate impacts that do not have a specific nexus with the project. Staff has met with the South Rose Hill Neighborhood Association (SRHNA) in the past about traffic on NE 80th Street concerning similar issues to those that are being raised relative to the proposed project. The City will continue work with the SRHNA to find improvements for NE 80th Street outside of this development process.

Road Impact Fees

Per City's Ordinance 3685, Road Impact Fees per the Impact Fee Schedule in effect January 1, 2013 are required for all developments. Road impact fees are used to construct transportation improvements throughout the City. The road impact rate for single-family is \$3,942 per unit. With 36 units, the calculated transportation impact fee is \$141,912 (36 units x \$3,942). Final impact fee shall be determined at building permit acceptance.

Staff Recommendations

Public Works Staff concludes that the proposed project will not create significant traffic impacts that would require specific off-site traffic mitigation. Staff recommends approval of the proposed project with the following mitigations:

- Pay Road Impact Fee.
- Connect 128th Avenue NE to NE 80th Street.
- Install a STOP sign on 128th Avenue NE at NE 75th Street.
- Install a STOP sign on the south leg of the existing intersection of NE 75th Street/128th Avenue NE.
- Install a sidewalk on the east side of the 128th Avenue NE between NE 80th Street and NE 75th Street.
- Complete the two small missing sections of sidewalks at the intersection of NE 80th Street/128th Avenue NE with the installation of the RRFB.

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Staff supports the voluntary installation of the RRFB at the intersection of NE 80th Street /128th Avenue NE. If you have any questions, call me at (425) 587-3869.

cc: EnerGov filing
Rob Jammerman, Development Engineering Manager