



City of Tukwila

Department of Community Development

Jim Haggerton, Mayor

Jack Pace, Director

October 9, 2013

Notice of Decision Parking Standard Determination for a Use Not Specified and Covenant Parking

TO: Ryan Bussard, Applicant
King County Assessor, Accounting Division
Agencies with Jurisdiction
All Parties of Record

This letter serves as a notice of decision and is issued pursuant to the Permit Application Types and Procedures Chapter of the Zoning Code (TMC 18.104.170) on the following project and permit approval.

I. PROJECT INFORMATION

Project File Number: L13-020

Applicant: Ryan Bussard

Type of Permit Applied for: Parking Standard for a use not specified and Covenant Parking (Type 2 Permit)

Project Description: Tukwila Library

Location: 14380 Tukwila International Boulevard

Associated Files: L13- 031 - Parking Determination – Tukwila Village Phases 1-3
L13-017 – Design Review – King County Library
L13-021 – Boundary Line Adjustment/Lot Consolidation
L13-030 – Design Review – Tukwila Village Site Plan – Phases 1-3 and Elevations Phase 1

Comprehensive Plan Designation: Neighborhood Commercial Center

Zoning District: Neighborhood Commercial Center with an Urban Renewal Overlay

II. DECISION

SEPA Determination: The SEPA Responsible Official has previously determined that the project, as proposed, does not create a probable significant environmental impact and issued a Determination of Non-Significance (DNS.)

Decision on Substantive Permit:

Based on the staff report dated October 8, 2013, the Community Development Director has made a :

1. Determination for a parking standard for the library of 4 per 1,000 usable square feet; and

2. Approved covenant parking for the proposed new library on proposed Lots A, B, C, D and E (Land Use File# L13-021) subject to the following conditions:
 - a) The access and parking easement created and recorded as part of the Lot Consolidation/Boundary Line Adjustment application (Land Use File #L13-021,) shall stipulate that the parking and access easement is provided in perpetuity for the use of the library, over proposed Lots A, B, C, D and E.
 - b) KCLS shall be a party to the Tukwila Village Transportation Management Plan.

III. YOUR APPEAL RIGHTS

The Decision on this Parking Determination Permit Application is a Type 2 decision pursuant to Tukwila Municipal Code (TMC 18.104.010.) Other land use applications related to this project are still be pending.

One administrative appeal of this decision to the Hearing Examiner is permitted. Unless an appeal of the Director's decision on this application is timely and properly filed to the City Council, the Director's decision on this permit shall be final.

A party who is not satisfied with the Hearing Examiner's determination on any such appeal may appeal to King County Superior Court under the procedures set forth in the Land Use Petition Act (RCW 36.70C.)

IV. PROCEDURES AND TIME FOR APPEALING

Deadline for appeal In order to appeal the Community Development Director's decision on this application, a written Notice of Appeal must be filed with the Department of Community Development within 14 calendar days from the date of the issuance of this Notice of Decision, that is by 5:00 p.m. on October 23, 2013.

Content of appeal The requirements for such appeals are set forth in the Appeal Processes Chapter of the Tukwila Municipal Code (TMC 18.116.) All Notice of Appeal materials must be submitted to the Department of Community Development and **must** include:

1. The name of the appealing party.
2. The address and phone number of the appealing party; and if the appealing party is a corporation, association or other group, the address and phone number of a contact person authorized to receive notices on the appealing party's behalf.
3. A statement identifying:
 - a) the decision being appealed
 - b) the specific errors of fact or errors in application of the law in the decision being appealed;
 - c) the harm suffered or anticipated by the appellant, and
 - d) the relief sought.
4. Appeal fee per the current Land Use Fee Schedule, additional hourly charges may apply. In addition all hearing examiner costs will be passed through to the appellant.

V. APPEAL HEARINGS PROCESS

Any administrative appeal regarding this Decision shall be conducted as an open record hearing before the *Hearing Examiner* based on the testimony and documentary evidence presented at the open record hearing. The *Hearing Examiner* decision on the appeal is the City's final decision.

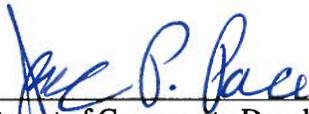
Any party wishing to challenge the *Hearing Examiner* decision on this application must file an appeal pursuant to the procedures and time limitations set forth in Judicial Review of Land Use Decision Chapter of the Revised Code of Washington (RCW 36.70C.) An appeal challenging the DNS may be included in such an appeal. If no appeal of the *Hearing Examiner* decision is properly filed in Superior Court within such time limit, the Decision on this Decision will be final.

The City's decision to issue a DNS, an MDNS or an EIS is final for this permit and any other pending permit applications for the development of the subject property.

VI. INSPECTION OF INFORMATION ON THE APPLICATION

Project materials including the application, any staff reports, and other studies related to the decision are available for inspection at the Tukwila Department of Community Development, 6300 Southcenter Blvd., Suite 100, Tukwila, Washington 98188 from Monday through Friday between 8:30 a.m. and 5:00 p.m. The project planner is Moira Carr Bradshaw, who may be contacted at 206-431-3651 for further information.

Property owners affected by this decision may request a change in valuation for their property tax purposes. Contact the King County Assessor's Office for further information regarding property tax valuation changes.



Department of Community Development
City of Tukwila

Staff Report to the Director of Community Development

October 8, 2013

File Number: L13-020

Request: 1. Parking Standard for a Use not specified in Tukwila Municipal Code (TMC 18.56.100 - Uses Not Specified) and
2. Covenant Parking (TMC 18.56.070(B) - Cooperative Parking Facility) on an adjacent parcel.

Location: 14380 Tukwila International Boulevard; the northeast corner of the intersection of Tukwila International Boulevard (TIB) and S. 144 Street.

Associated Approval: E12-011 Tukwila Village SEPA Decision; L13-017 Library Design Review; L13-030 Tukwila Village Design Review; L13-031 Tukwila Village Parking Variance

Applicant: Ryan Bussard, Perkins+Will

Owners: City of Tukwila

Notification: Notice of Application for this Type 2 permit was mailed to surrounding properties and posted on the site on June 26, 2013.

Comprehensive Plan Designation: Neighborhood Commercial Center

Zoning District: Neighborhood Commercial Center – Urban Renewal Overlay

SEPA Decision: A Determination of NonSignificance was issued on August 7, 2013 for all three phases of the Tukwila Village Development

Decision: Approve with conditions

Staff: Moira Carr Bradshaw

Attachments: A. Library Floor Plan
B. Tukwila Village Site Phasing Plan
C. Description of Request
D. Traffic Impact Analysis Parametrix (November 2012)

Staff Report
L13-020

Findings

I. Relevant Information

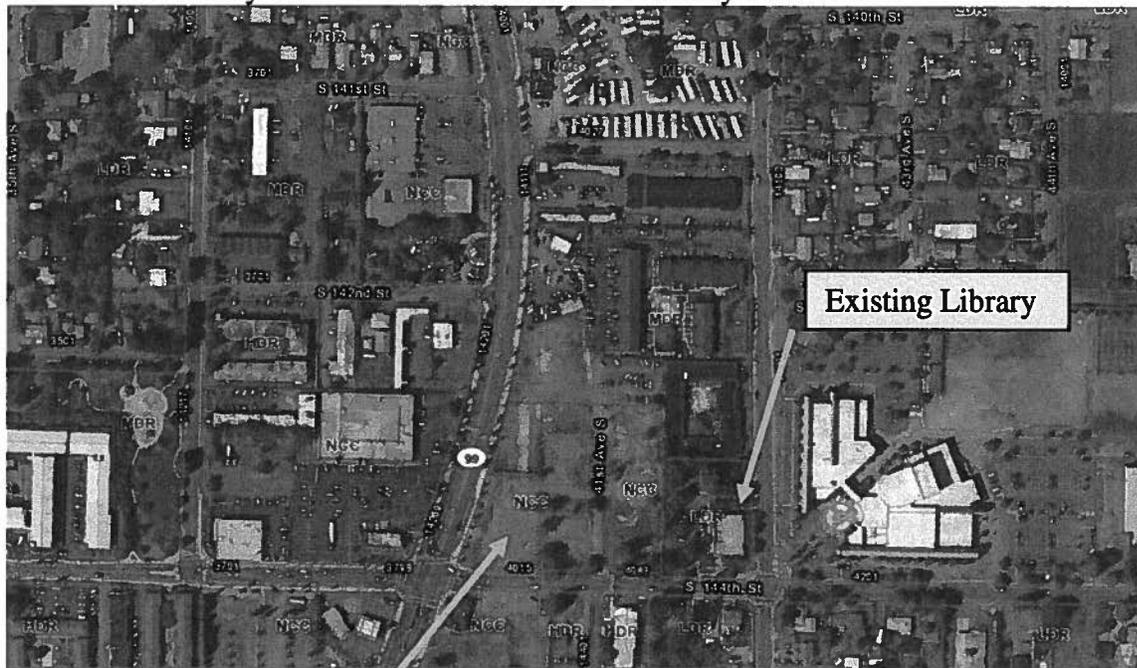
The following information was considered as part of the review of this application:

1. King County Library Design Review Application (File No. L13-017)
2. Off-Street Parking and Loading Regulations, Tukwila Zoning Code, (TMC 18.56)
3. Tukwila Comprehensive Land Use Policy Plan
4. Tukwila Village Development Proposal Project Description May 28, 2013
5. Tukwila Village SEPA Checklist (Park, May 28, 2013)
6. Disposition and Development Agreement by and between the City of Tukwila and Tukwila Village Development Associates, LLC; dated 10/30/2012 (City of Tukwila Contract 12-129)
7. Development Agreement for the Tukwila Village Development Project; approved 10/22/2012 (City of Tukwila Contract 12-176)

NOTE: Plans, codes, technical reports and attachments referenced above may be reviewed and/or obtained by contacting Moira Carr Bradshaw, Senior Planner, 6300 Southcenter Boulevard, Tukwila, Washington, 98188, Phone: 206-431-3670.

Existing Development

The site is currently a vacant field. The site was formerly a motel that was razed.



New Library Site

Staff Report
L13-020

Surrounding Land Use

Within the same block but on the southeast corner is the existing 5,200 square foot Foster Neighborhood Library. No proposal has been made for the future of the existing library. In the immediate vicinity are a number of public uses such as the high and middle schools, public pool, and neighborhood park; neighborhood retail such as drug stores, grocery, and laundromats, dry cleaners; and a variety of food establishments. Typical suburban neighborhood commercial development occurs on the west side of the Tukwila International Boulevard. Also, there are numerous housing developments from motels, apartments to single family homes.

II. Summary of Proposed Action

Project Description

The proposed project is a new 10,000 square foot neighborhood library. The library contains a restricted staff area, bathrooms, a children's area, a collections area in the center of the space, and computers and reading areas around the perimeter / windowed walls. The proposal also includes a space labeled the community mosaic that is a flexible space. It includes a raised platform for performances, a sink to facilitate food and beverage use and clean-up, comfortable upholstered chairs and storage and access to a patio area that has outdoor tables and chairs and an overlook onto the outdoor plaza. A subsection may be walled off and used as a separate meeting room. Attachment A is a copy of the Library Floor Plan.

The proposed library parcel contains no parking stalls. The proposal is to locate the required parking on a reciprocal parking easement on adjacent parcels with the Tukwila Village Development, whose parking stalls will be shared among the users of the two projects.

III. Decision Authority

The purpose of the Off-street Parking and Loading regulations chapter is to provide for adequate, convenient, and safe off-street parking areas for the different land uses described in the City's Zoning Code. (TMC 18.56.010 Purpose)

At the time any building or structure is erected, enlarged or at the time there is a change in its principal use, off-street parking and loading spaces must be provided as an accessory use in all zones in accordance with the requirements of the Off-Street Parking Chapter (TMC 18.56.020.) The Chapter includes a table (Figure 18-7) that lists the required number of parking spaces for automobiles and bicycles. The table provides specific parking requirements for a number of common land uses; however, there is no listing for public libraries.

1. Parking Standard for a Use not Specified

The required number of parking stalls for a library is not specified under the City's parking regulations. Under the "Uses Not Specified" section of the Off-Street Parking Chapter, (TMC 18.56.100) the Director shall determine the required number of parking stalls for uses that are not

specified in the City's parking regulations. A Parking Standard Determination must be made following a Type 2 process as described in the Permit Application Types and Procedures Chapter (TMC 18.104.) The Director's Determination shall be based upon the requirements for the most comparable uses specified in the Off-Street Parking Chapter.

Comparable Uses

The following use listed in table 18-7 of TMC 18.56 is most comparable to the proposed library:

1. Places of public assembly, including auditoriums, exhibition halls, community clubs, community centers, and private clubs.

For the places of public assembly, etc, the Director shall determine the number of required parking spaces, with a minimum of 1 space for every 100 square-foot of assembly area. To ensure parking adequacy for each proposal, the Director may consider the following:

- a. A parking study or documentation paid for by the applicant and administered by the City regarding the actual parking demand for the proposed use, or
- b. Evidence in available planning and technical studies relating to the proposed use.

Parking Demand

The applicant submitted a Traffic Impact Analysis (Parametrix, November 2012) that references the Institute of Traffic Engineers (ITE) Parking Generation Manual, 4th Edition. The Analysis reports that the peak parking demand will be 3.14 paces per 1,000 square feet of gross floor area or 31 parking spaces. The analysis included demand during the weekday and on Saturday and Sunday and determined that the peak parking demand period is 7-8 p.m. during the weekday.

The existing Foster library at the northwest corner of 42 Avenue S. and S. 144 Street is 5,250 square feet and includes 34 off-street parking stalls, that is a ratio of 6.5 stalls per 1,000 square feet of library space. The experience at the existing library is that sufficient parking stalls exist for the library users. Parking demand that exceeded supply could occur during special meetings. Parking for those events would spill over onto 42 Avenue S., where on-street parking is located, and in the high school on-site parking.

Staff has access to the 3rd edition of that publication, which cites a database of 7 suburban libraries. The authors define a library as "... a public facility... that consists of shelved books, reading rooms or areas, and sometimes meeting rooms." As part of its service to the community, the King County Library System (KCLS) provides meeting rooms for use by local community groups and organizations. This policy ensures that KCLS meeting rooms are available for gatherings, the primary purpose or nature of which is civic, cultural, educational and/or of community-interest. The meeting room is 566 square feet and has an occupant load of 81. This could generate additional demand of approximately 20 stalls (81 divided by 4.)

Meeting room reservations may be made either online or by contacting the library directly. Meeting room applications are reviewed by library staff to ensure they adhere to KCLS policy. Local library management has the authority to accept or reject requests for use of the meeting room.

Comprehensive Plan Policy

1.8.8 Encourage facilities and improvements that support transit use in new development, redevelopment, and street projects.

Potential Impacts

The City of Tukwila owns the property that will be sold to Tukwila Village Associates, LLC and to the KCLS. The future parcels will have reciprocal access and parking easements for all of the 6.4 acres proposed for development. Excerpts from the DDA and DA are included below. The proposed parking will be developed by and provided on Tukwila Village property.

The Tukwila Village applicant is requesting a 10% reduction from the parking standard requirements. This Parking Standard Determination will be used to calculate the minimum required number of stalls on the Tukwila Village parcels.

On the north side of S. 144 Street are Phases 1 and Phase 3 of the Tukwila Village project and on the south side is Phase 2. See Attachment B.

Two Metro Bus Routes provide immediate access to the library. Route 128 stops on S. 144 Street and travels approximately every 15 minutes between West Seattle and Southcenter. Route 124 stops on TIB and travels approximately every 15 minutes during peak periods between the Link station at Southcenter Boulevard north to downtown Seattle.

There is also a 28 stall Metro Park and Ride Lot located at the Church by the Side of the Road at 3455 S 148th St Tukwila International Boulevard, which is two blocks south of the subject site. This lot is typically utilized at about 25-33%.

The City's Sign Code allows directional signage to direct pedestrian and automobile traffic. (Exceptions – Sign Permits Not Required (TMC 19.12.030(10).) The Sign Code allows up to four, two square feet, directional signs per premises where there is a need to direct vehicular traffic.

2. Covenant Parking

There is provision to provide required parking off-site in the Cooperative Parking Facility Section of the Off-Street Parking Chapter (TMC 18.56.070.) Any application for shared, covenant or complementary parking must typically be processed as a Type 2 decision pursuant to the Decision Process Chapter (TMC 18.108.020.)

When off-site parking is provided on a lot other than the lot of the use to which it is accessory, the following three conditions apply (TMC 18.56.070(B.)

1. A covenant between the owner or operator of the principal use, the owner of the parking spaces and the City stating the responsibilities of the parties shall be executed. This covenant and accompanying legal descriptions of the principal use and the lot upon which the spaces are to be located shall be recorded with King County, and a copy with

the recording number and parking layouts shall be submitted as part of any permit application for development.

2. The covenant lot must be within 800 feet of the primary commercial use or a shuttle service to the use must be provided with its route, service and operations approved by the Director.

Approval of off-site parking per the Zoning Code is not required as the Tukwila City Council has approved the condition as part of the DDA. It was anticipated through the Development Agreement that there would be an Integrated Site. *“The Development Parcels within each Development Phase may contain multiple lots tracts or parcels that will function as a single site. Accordingly each Development Phase shall be considered as a single integrated site as if there were no interior lot lines for purposes of determining compliance with the dimensional requirements and set back requirements applicable to each such Development Phase. Further if the BAR determines that two or more Development Phases will function as a single integrated site such Development Phases shall together be considered as a single integrated site as if there were no interior lot lines for purposes of determining compliance with Governing Regulations such as building setbacks, recreation space, parking, and landscape requirements.”* Emphasis is added.

Section 2.9 Library of the DDA, section C. Infrastructure Improvements Benefiting Library Parcel; Reimbursement says, *“Subject to appropriate and satisfactory arrangements for reimbursement of Developer for an allocable portion of the cost thereof, to be set forth in the KCLS Development Agreement, Developer shall be responsible for the design, engineering, development, construction and maintenance of all roads, parking, sidewalks, frontage improvements, drainage systems, utility systems, extensions and connections (collectively, the Library Off-Site Infrastructure)on or adjacent to the property or adjacent right of way necessary to serve the Library Parcel. The owner of the Library Parcel shall have responsibility for the design, engineering, development construction and maintenance of all Library on-site infrastructure located on or under the Library Parcel and making utility service connections. Developer agrees to work cooperatively with KCLS to design, develop and construct the Library Off -Site Infrastructure improvements to be consistent and compatible with the proposed development of the Library Parcel by KCLS. The Parties intend that KCLS shall be responsible for reimbursement to Developer of the proportional design, engineering, development, construction and maintenance costs for Library Off-Site Infrastructure.”*

3. The Code also specifies that when any Shared or Covenant parking agreement between parties, as referenced above, is modified or terminated, the owner of the parking spaces shall be responsible for notifying the Director. In this event, all affected parties shall provide documentation that a minimum of 50% of the required minimum parking will be available within 90 days following termination of the agreement, with the remainder to be available 365 days following termination of the original agreement.

The DDA (Contract 12-129) between the City of Tukwila and Tukwila Village Development Associates, LLC contains a section outlining the arrangements for parking on the Tukwila Village parcel to serve the Library Parcel. (DDA page 24) Specifically it says, Section 2.9

Library, section D. KCLS Development Agreement Easements Parking says, *“It is anticipated that KCLS and Developer will work cooperatively to reach an agreement between the KCLS and Developer to determine the boundaries of the Library Parcel, to determine the allocable cost of Library Off-Site Infrastructure, for Developer to construct and install such Library Off Site Infrastructure, and to provide reciprocal easements for such Library Off Site Infrastructure. It is further anticipated that such an agreement will provide for a parking easement or similar rights for the benefit of the Library Parcel to the extent necessary to meet parking requirements for the development of the Library Parcel and for Developer to make the necessary Improvements to the Property such that sufficient parking is available for the Library Parcel to meet parking requirements for the development of the Library Parcel under applicable City Municipal Code and to allow a certificate of occupancy to be issued for KCLS to occupy and use the Improvements to the Library Parcel.”*

Conclusions

1. Parking Standard for a use not specified

- a) The Parking Generation Manual does not detail whether the surveyed library’s had meeting rooms that were occupied during the parking occupancy counts.
- b) Although the proposed standard is less than the current parking supply and more than the standard identified in the transportation analysis, the proposed parking ratio of 4 stalls per 1,000 square feet should provide sufficient parking for daily use and provide a cushion when high occupancy meetings take place or special events occur in the community mosaic. Because of the shared nature of the parking, coordination will need to occur between the Library staff and Tukwila Village managers to address scheduling of multiple, simultaneous events.

2. Covenant Parking

- a) The design guidelines and standards for the area are created to encourage pedestrians to walk between buildings and uses and not to view the properties and their uses as isolated stand-alone fixtures in the neighborhood.
- b) The site layout for Tukwila Village fully incorporates the library into the pedestrian and vehicular amenities on site, such that the various parcels can be considered seamless or one development.
- c) It was anticipated that regardless of ownership, parking and access across parcels would occur at the Tukwila Village site and would be ensured through easements. Within the Disposition and Development Agreement, Section 2.4 Phasing Development Parcels; D. Additional Approvals is the following statement, *“The City shall have the right to require and approve easements for utilities, vehicular access, pedestrian access, shared parking, and shared maintenance for each Development Phase to ensure that the entire Development functions as an integrated whole even if the Development Parcels and or Development Phases come under separate ownership and management.”*

- d) The language of the easement for parking should specify that the easement is in perpetuity or as long as there is a library on the Library Parcel.

Recommendation

1. Approve the parking ratio of 4.0 stalls per 1,000 square feet of gross library floor area as the standard for this library;
2. The access and parking easement created and recorded as part of the Lot Consolidation/Boundary Line Adjustment application (Land Use File #L13-021,) shall stipulate that the parking and access easement is provided in perpetuity for the use of the library, over proposed Lots A, B, C, D and E
3. KCLS shall be a party to the Tukwila Village Transportation Management Plan.

**PERKINS
+ WILL**

Tulkuwila
Library
14342 Tulkuwila International
Tulkuwila, WA 98148

King County
Library
System

DATE	DESCRIPTION

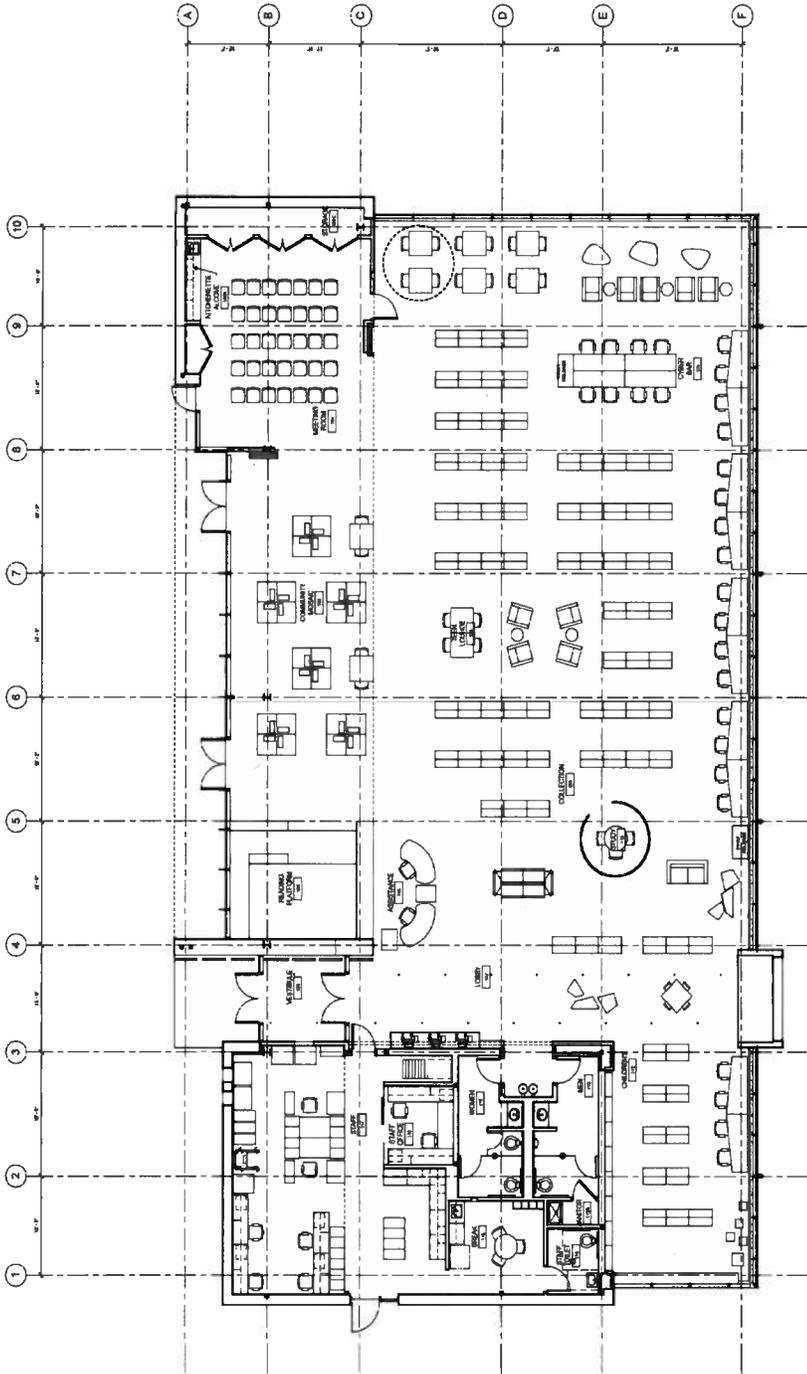


NO.	DATE	REVISION

FURNITURE PLAN -
LEVEL 01
FOR REFERENCE
ONLY

Sheet
A08-10

NOTES:
1. FURNITURE PLAN IS PROVIDED FOR REFERENCE ONLY.



① FURNITURE PLAN - LEVEL 01
2007-11-09

Attachment A

PERKINS
+ WILL

RECEIVED

MAY 15 2013

COMMUNITY
DEVELOPMENT

Memo

To: Moira Carr Bradshaw

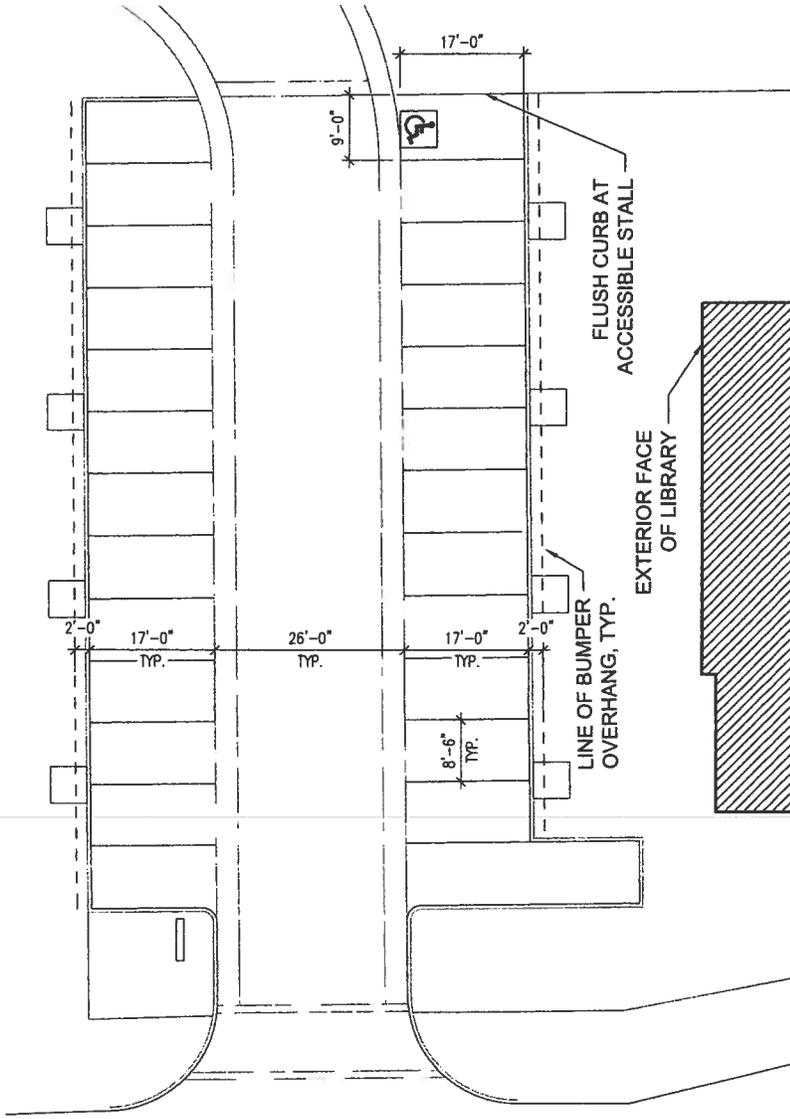
From: Ryan Bussard

Date: May 9, 2013

Subject: Project Description for Tukwila Library | Special Permission - Director

The new Tukwila library, located at the corner of SE 144th Street and Tukwila International Boulevard is part of a larger development known as the Tukwila Village. The library is considered a 'use not specified' according to the Tukwila Municipal code (TMC 18.56.100 Uses Not Specified).

The parking demand for the entire Tukwila Village site, including the 10,000 SF library is summarized in the enclosed "Traffic Impact Analysis" by Parametrix. In addition to the "Traffic Impact Analysis", refer to "Concept Site Plan", which illustrates stalls that have been designated for library use, "Dimensioned Parking Plan – On-street Parallel Parking", and "Dimensioned Parking Plan – Standard and Accessible Off-Street Parking Stalls".



TUKWILA INTERNATIONAL BLVD

RECEIVED
MAY 15 2013



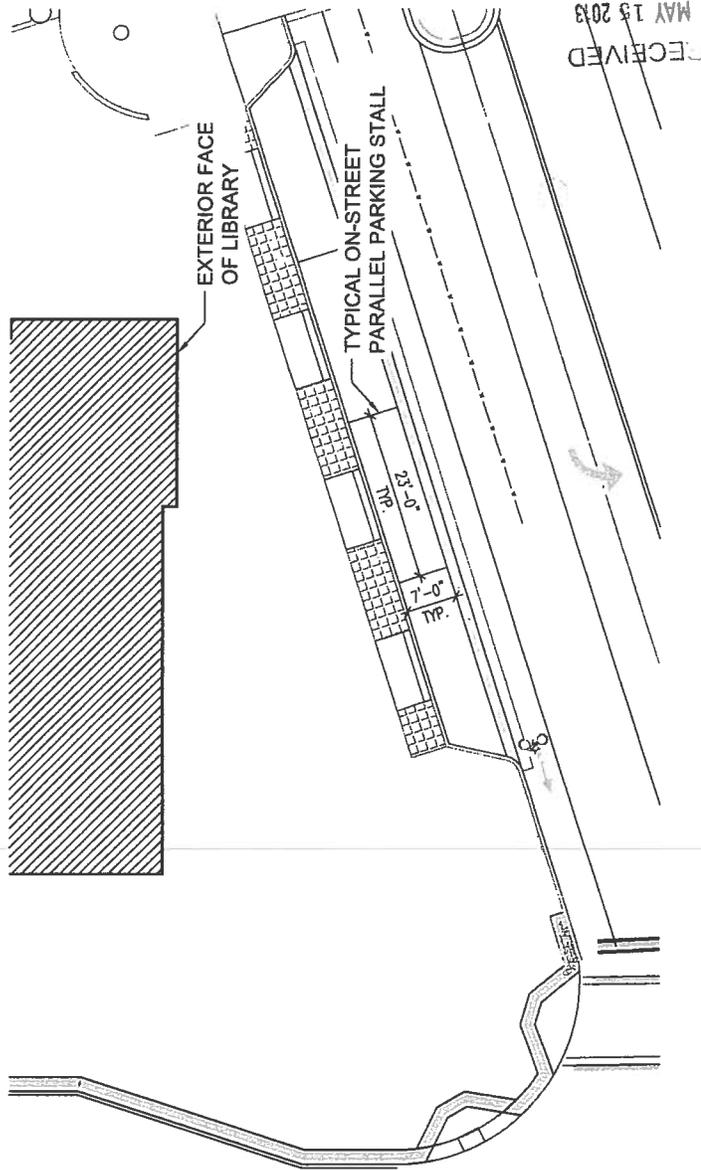
DIMENSIONED PARKING PLAN | STANDARD AND ACCESSIBLE OFF-STREET PARKING STALLS

1/16" = 1'-0"



TUKWILA LIBRARY | KING COUNTY LIBRARY SYSTEM

PERKINS+WILL



DIMENSIONED PARKING PLAN | ON-STREET PARALLEL PARKING
 1/8" = 1'-0"



411 108th AVENUE NE, SUITE 1800
 BELLEVUE, WA 98004-5571
 T. 425.458.6200 F. 425.458.6363
 www.parametrix.com

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM -

Date: November 12, 2012
 To: Dave McPherson
 From: Carter Danne
 Subject: Traffic Impact Analysis
 cc: Bryan Park
 Project Number: 554-6892-001
 Project Name: Tukwila Village

INTRODUCTION

Project Description

Tukwila Village Development Associates LP intends to develop a mixed-use neighborhood center designed to provide residences as well as neighborhood retail and resources. The developer plans to build the project in two phases and construct five buildings in total that provide the uses shown in Table 1; building letters are shown on the attached site plan.

Table 1. Proposed Uses and Development Phasing

Proposed Uses	Phase	Building Letter	Location On Site	Qty.	Unit of Measure
Family Apartment Units	1	A	Northwest	84	Dwelling Units (DU)
Senior Housing – Attached Units	Total			310	Occupied Dwelling Units (ODU)
	1	D	Southwest	60	ODU
	2	B	Northeast	122	ODU
	2	E	Southeast	128	ODU
Retail Space	Total			17,000	Square Feet (SF)
	1	A	Northwest	11,000	SF
	1	C	Commons	3,000	SF
	2	B	Northeast	1,800	SF
	2	E	Southeast	1,200	SF
Medical Office	1	D	Southwest	22,500	SF
Community Policing	1	D	Southwest	2,000	SF

ATTACHMENT D

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

In addition, it is anticipated that the King County Library System (KCLS) will relocate the nearby Foster Library onto the site into a 10,000 SF building constructed by KCLS in a west-central location and dedicated for their sole use. The project site is located in the northeast and southeast quadrant of the Tukwila International Boulevard

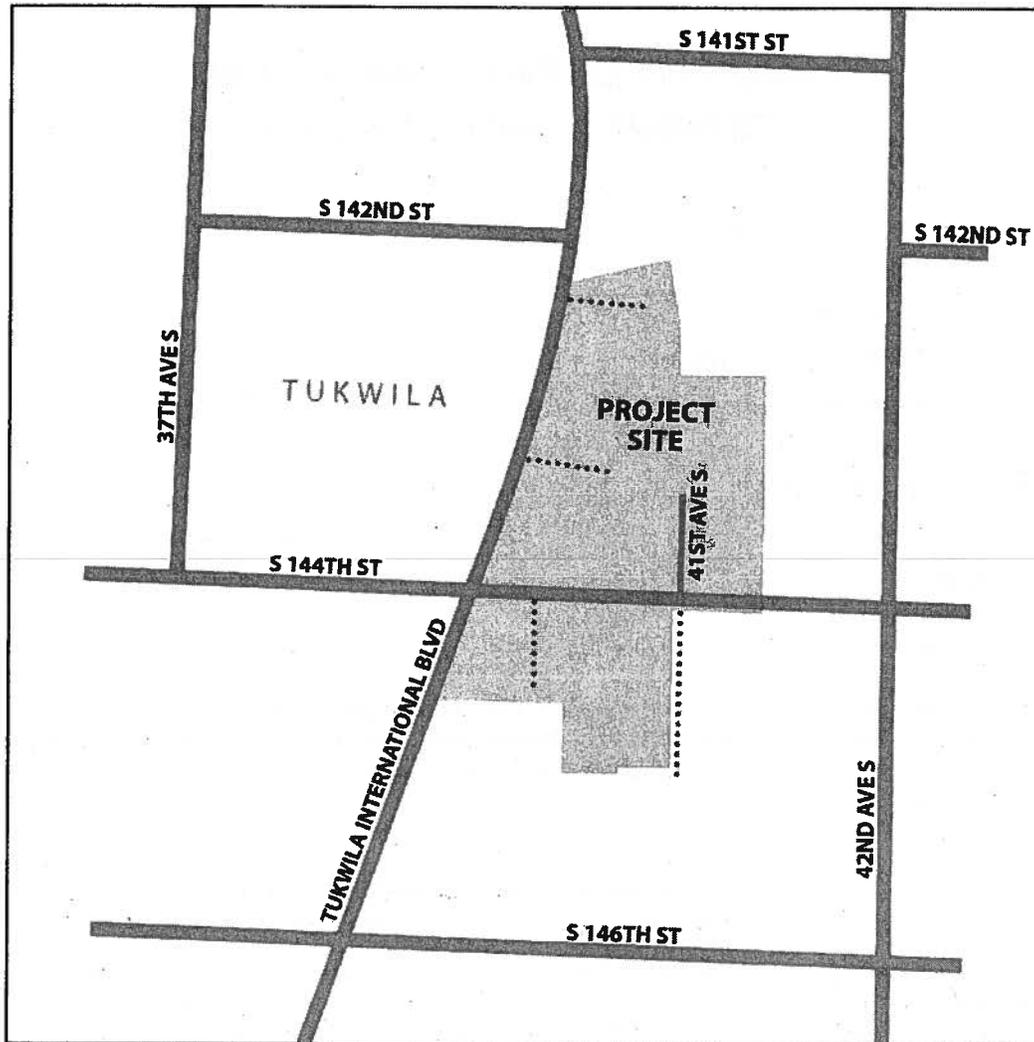


Figure 1
Site Vicinity Map

Scope of Analysis

This technical memorandum addresses the following:

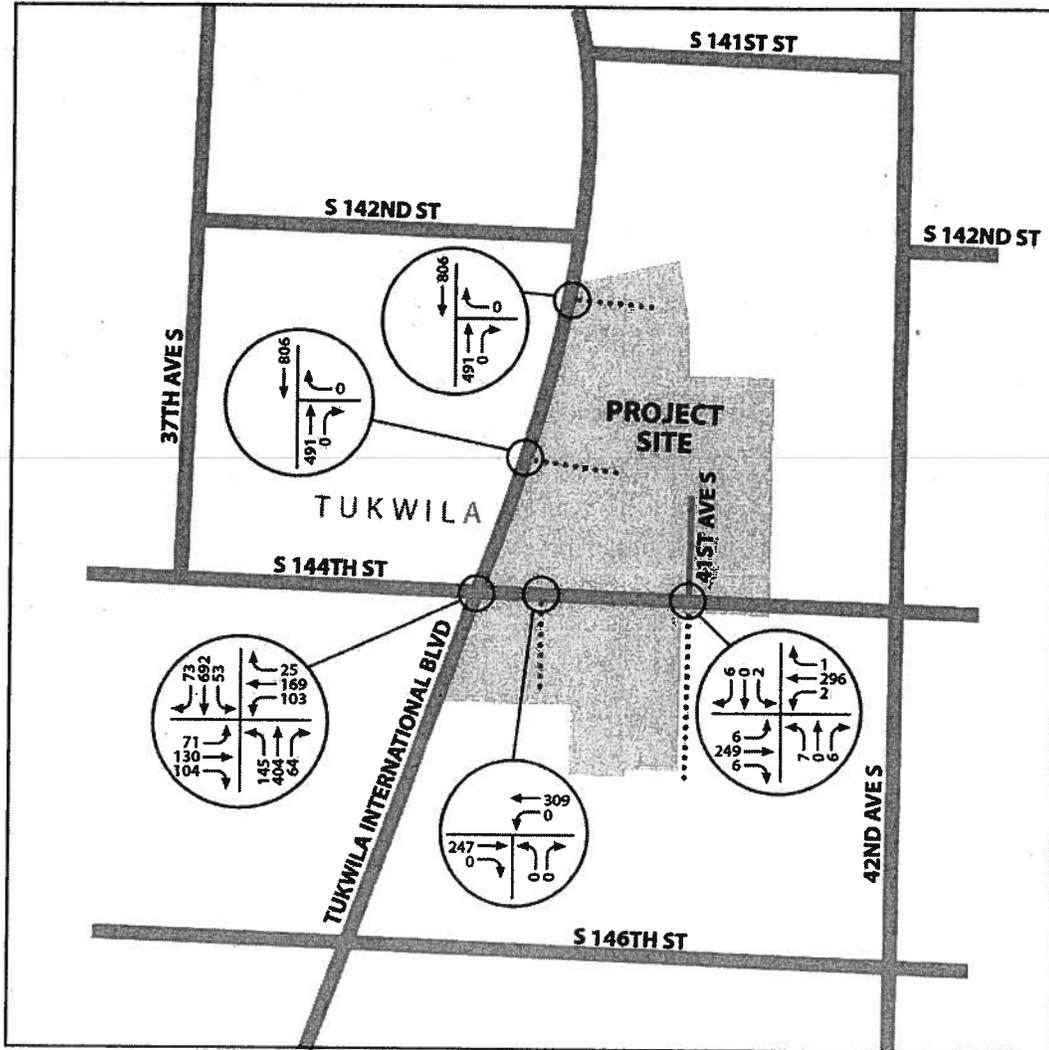
- Traffic Volumes & Parking Projections
- Transportation System Conditions
- Mitigation Fee Requirements
- Conclusions & Recommendations

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

TRAFFIC VOLUMES & PARKING PROJECTIONS

Existing Traffic Volumes

Turning movement volumes were gathered on Thursday, June 14, 2012 prior to school being out of session. The counts were conducted from 2:30 PM to 6:00 PM and the peak hours at the TIB intersections occurred from 4:30 PM to 5:30 PM and at the S 144th Street intersections from 4:15 PM to 5:15 PM. These traffic volumes are shown on Figure 2.



**Figure 2
Existing 2012
PM Peak Hour
Turning Movement Volumes**

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Future Baseline 2016 Traffic Volumes

The City of Tukwila provided historic traffic volume data on Tukwila International Boulevard north of S 139th Street from the year 2006 through 2011. The annual growth from 2006 has varied year to year as is seen in Table 2 below. Additionally, a forecast of the average daily traffic (ADT) for the project horizon year of 2016 was used to help develop an assumed annual growth rate.

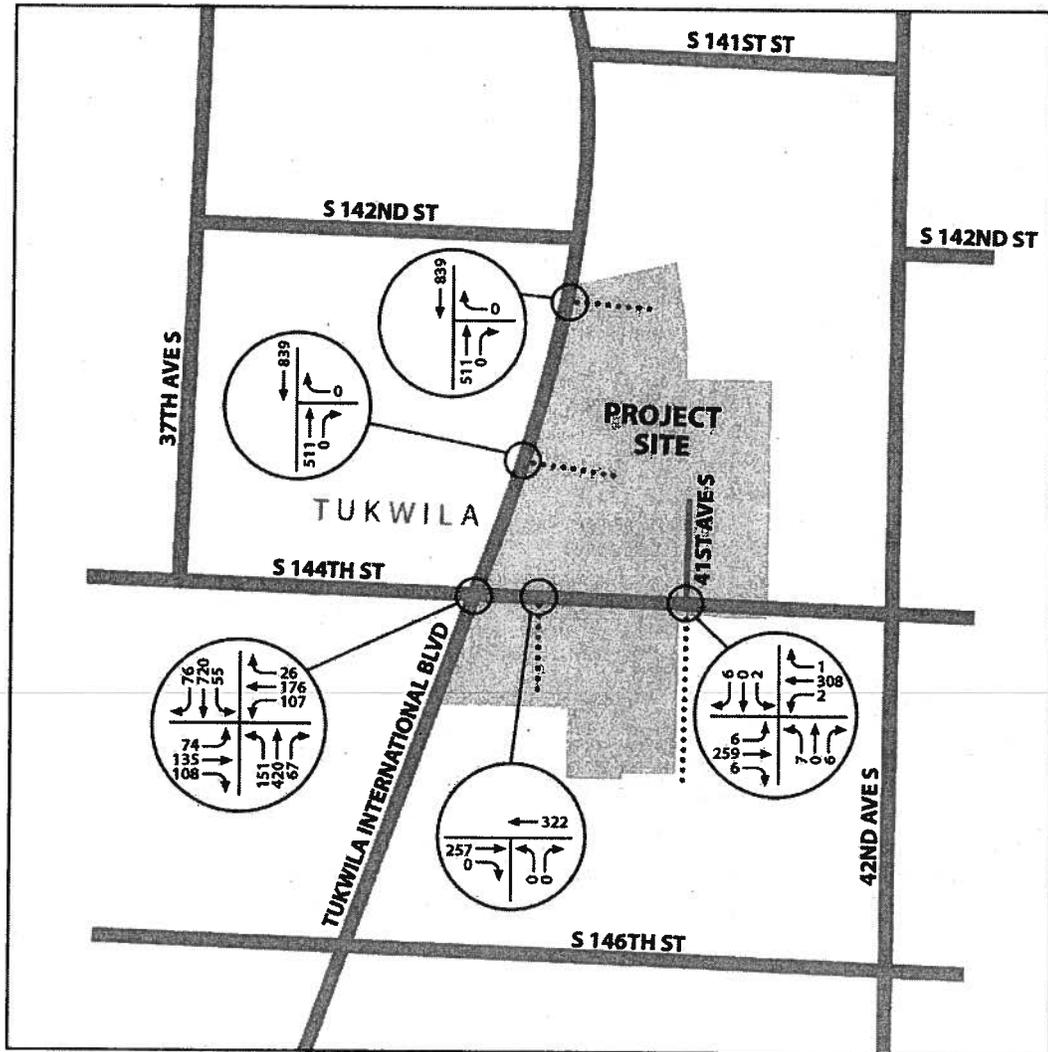
Table 2. Historic Growth in Traffic Volumes (TIB north of S 139th Street)

Data Year	Years of Growth from 2006	Average Daily Traffic (ADT)	Annual Growth from 2006
2006	-	17,100	-
2007	1	17,300	1.2%
2008	2	17,400	0.9%
2009	3	16,800	-0.6%
2010	4	15,500	-2.4%
2011	5	19,100	2.2%
2016 (Forecast)	10	18,057*	0.5%*

*Forecast using linear regression

After reviewing the above information, a 1 percent annually compounding traffic growth rate was determined to be a reasonable assumption for the traffic growth anticipated on the streets near Tukwila Village. Figure 3 shows the future 2016 baseline traffic volumes during the weekday PM peak hour, which were grown from the volumes summarized in Figure 2.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)



**Figure 3
Future 2016 Baseline
PM Peak Hour
Turning Movement Volumes**

Trip Generation

The 8th Edition of ITE's *Trip Generation* was used to estimate the amount of traffic generated by the proposed site uses. Table 3 below summarizes the gross trips projected with the proposed development. Gross trips represent the trip generation of land uses as if they were standalone uses and do not account for the trip reductions typically experienced with mixed-use sites.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 3. Weekday Gross Trip Generation

Proposed Uses Compatible Land Use Code	Phase & Building Letter	Qty.	Daily	AM Peak Hour		PM Peak Hour		Total	In	Out
			Total	Total	In	Out	Total			
Family Apartment Units										
220 – Apartment	1 A	84 DU	633	45	9	36	122	77	45	
Senior Housing – Attached Units										
252 – Senior Adult Housing-Attached	1 D	60 ODU	209	9	3	6	11	7	4	
Senior Housing – Attached Units										
252 – Senior Adult Housing-Attached	2 B	122 ODU	425	18	6	12	23	14	9	
Senior Housing – Attached Units										
252 – Senior Adult Housing-Attached	2 E	128 ODU	445	18	7	11	24	14	10	
Retail Space										
820 – Shopping Center	1 A	11,000 SF	1,389	35	21	14	126	61	65	
Retail Space										
820 – Shopping Center	1 C	3,000 SF	379	10	6	4	34	17	17	
Retail Space										
820 – Shopping Center	2 B	1,800 SF	227	6	3	3	21	10	11	
Retail Space										
820 – Shopping Center	2 E	1,200 SF	151	3	3	0	13	7	6	
Medical Office										
720 – Medical-Dental Office Building	1 D	22,500 SF	705	52	41	11	76	21	55	
Community Policing										
730 – Government Office Building	1 D	2,000 SF	138	12	10	2	2	1	1	
Subtotal of Phase 1 not including Library	1		3,453	163	90	73	313	149	164	
Library										
590 – Library	1 (by KCLS)	10,000 SF	764	7	5	2	73	35	38	
Subtotal of Phase 1 with Library	1		4,217	170	95	75	386	184	202	
Subtotal of Phase 2	2		1,248	45	19	26	81	45	36	
Total with Full Build-Out	Full Build-Out		5,465	215	114	101	467	229	238	

After the gross trip generation was projected, adjustments were made to account for the mixed-use nature of the site and estimates of internal trips within the site. The *ITE Trip Generation Handbook* contains a procedure by which to do this and that methodology was followed to project the internal capture summarized in Table 4.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 4. Weekday Internal Trip Generation (Capture)

Proposed Uses Compatible Land Use Code	Phase & Building Letter	Qty.	Daily	AM Peak Hour		PM Peak Hour			
			Total	Total	In	Out	Total	In	Out
Family Apartment Units 220 – Apartment	1 A	84 DU	78	1	0	1	10	7	3
Senior Housing – Attached Units 252 – Senior Adult Housing-Attached	1 D	60 ODU	26	0	0	0	2	1	1
Senior Housing – Attached Units 252 – Senior Adult Housing-Attached	2 B	122 ODU	52	0	0	0	4	2	2
Senior Housing – Attached Units 252 – Senior Adult Housing-Attached	2 E	128 ODU	55	1	1	0	4	3	1
Retail Space 820 – Shopping Center	1 A	11,000 SF	168	3	1	2	15	5	10
Retail Space 820 – Shopping Center	1 C	3,000 SF	46	1	1	0	4	1	3
Retail Space 820 – Shopping Center	2 B	1,800 SF	27	0	0	0	2	1	1
Retail Space 820 – Shopping Center	2 E	1,200 SF	18	0	0	0	2	1	1
Medical Office 720 – Medical-Dental Office Building	1 D	22,500 SF	35	1	1	0	3	1	2
Community Policing 730 – Government Office Building	1 D	2,000 SF	7	1	0	1	0	0	0
Subtotal of Phase 1 not including Library	1		360	7	3	4	34	15	19
Library 590 – Library	1 (by KCLS)	10,000 SF	38	0	0	0	2	2	0
Subtotal of Phase 1 with Library	1		398	7	3	4	36	17	19
Subtotal of Phase 2	2		152	1	1	0	12	7	5
Total with Full Build-Out	Full Build-Out		550	8	4	4	48	24	24

With the internal trip capture projected, the external trips (trips that would appear at the driveways) were calculated by subtracting the internal trips (Table 4) from the gross trips (Table 3). Table 5 summarizes below the anticipated total driveway trips.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 5. Weekday External Trip Generation (Total Driveway Trips)

Proposed Uses Compatible Land Use Code	Phase & Building Letter	Qty.	Daily	AM Peak Hour		PM Peak Hour			
			Total	Total	In	Out	Total	In	Out
Family Apartment Units									
220 – Apartment	1 A	84 DU	555	44	9	35	54	35	19
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	1 D	60 ODU	183	9	3	6	9	6	3
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 B	122 ODU	373	18	6	12	19	12	7
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 E	128 ODU	390	17	6	11	20	11	9
Retail Space									
820 – Shopping Center	1 A	11,000 SF	1,221	32	20	12	111	56	55
Retail Space									
820 – Shopping Center	1 C	3,000 SF	333	9	5	4	30	16	14
Retail Space									
820 – Shopping Center	2 B	1,800 SF	200	6	3	3	19	9	10
Retail Space									
820 – Shopping Center	2 E	1,200 SF	133	3	3	0	11	6	5
Medical Office									
720 – Medical-Dental Office Building	1 D	22,500 SF	670	51	40	11	73	20	53
Community Policing									
730 – Government Office Building	1 D	2,000 SF	131	11	10	1	2	1	1
Subtotal of Phase 1, not including Library	1		3,093	156	87	69	279	134	145
Library									
590 – Library	1 (by KCLS)	10,000 SF	726	7	5	2	71	33	38
Subtotal of Phase 1 with Library	1		3,819	163	92	71	350	167	183
Subtotal of Phase 2	2		1,096	44	18	26	69	38	31
Total with Full Build-Out	Full Build-Out		4,915	207	110	97	419	205	214

The external trip generation summarized above contains vehicle trips of two types: pass-by trips and new trips. Pass-by trips are trips to/from sites where the vehicle was already on the street and as it is passing by the site, the driver turns into the site to make a stop before resuming their original trip. New trips are the remaining trips, where the primary purpose of the vehicle trip was to travel to and from the site.

Only the 17,000 SF of retail uses are expected to attract pass-by trips. The pass-by trip reductions applied to the retail uses were as follows:

- 65 percent for the PM peak hour (based on the regression equation found for Shopping Center in the *ITE Trip Generation Handbook*),
- 55 percent for daily (although no data exists, it has been assumed to be somewhat less than during the peak hours), and
- 65 percent for the AM peak hour (although no data exists, it has been assumed to mirror the PM peak hour trend).

The regression equation was used rather than the average pass-by percentage because the pass-by data for shopping centers indicate that the pass-by rate exponentially increases as the square footage of the retail decreases. This presumably occurs because larger shopping centers are more of a regional destination rather than a local neighborhood center, where someone might drop by on the way home in the evening or to the office in the morning (i.e., a pass-by trip). The result of applying the above pass-by rates to the external trip generation for the retail uses is summarized in Table 6 below.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 6. Weekday Pass-By Trip Generation

Proposed Uses Compatible Land Use Code	Phase & Building Letter	Qty.	Daily	AM Peak Hour		PM Peak Hour			
			Total	Total	In	Out	Total	In	Out
Family Apartment Units									
220 – Apartment	1 A	84 DU	0	0	0	0	0	0	0
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	1 D	60 ODU	0	0	0	0	0	0	0
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 B	122 ODU	0	0	0	0	0	0	0
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 E	128 ODU	0	0	0	0	0	0	0
Retail Space									
820 – Shopping Center	1 A	11,000 SF	672	21	13	8	72	37	35
Retail Space									
820 – Shopping Center	1 C	3,000 SF	183	6	4	2	20	10	10
Retail Space									
820 – Shopping Center	2 B	1,800 SF	110	3	2	1	12	6	6
Retail Space									
820 – Shopping Center	2 E	1,200 SF	73	3	1	2	7	4	3
Medical Office									
720 – Medical-Dental Office Building	1 D	22,500 SF	0	0	0	0	0	0	0
Community Policing									
730 – Government Office Building	1 D	2,000 SF	0	0	0	0	0	0	0
Subtotal of Phase 1 not including Library	1		855	27	17	10	92	47	45
Library									
590 – Library	1 (by KCLS)	10,000 SF	0	0	0	0	0	0	0
Subtotal of Phase 1 with Library	1		855	27	17	10	92	47	45
Subtotal of Phase 2	2		183	6	3	3	19	10	9
Total with Full Build-Out	1 Full Build-Out		1,038	33	20	13	111	57	54

The proposed Tukwila Village development would attract 1,038 daily pass-by trips, of which 33 would occur during AM peak hour and 111 would occur during the PM peak hour.

As mentioned previously, after accounting for internal trip capture and pass-by trips, the remaining trips are referred to as new trips. The new trips summarized below in Table 6 are the result of subtracting the pass-by trips in Table 5 from the external trips in Table 7.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 7. Weekday New Trip Generation

Proposed Uses Compatible Land Use Code	Phase & Building Letter	Qty.	Daily	AM Peak Hour		PM Peak Hour			
			Total	Total	In	Out	Total	In	Out
Family Apartment Units									
220 – Apartment	1 A	84 DU	555	44	9	35	54	35	19
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	1 D	60 ODU	183	9	3	6	9	6	3
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 B	122 ODU	373	18	6	12	19	12	7
Senior Housing – Attached Units									
252 – Senior Adult Housing-Attached	2 E	128 ODU	390	17	6	11	20	11	9
Retail Space									
820 – Shopping Center	1 A	11,000 SF	549	11	7	4	39	19	20
Retail Space									
820 – Shopping Center	1 C	3,000 SF	97	3	2	1	10	6	4
Retail Space									
820 – Shopping Center	2 B	1,800 SF	10	2	1	1	7	3	4
Retail Space									
820 – Shopping Center	2 E	1,200 SF	193	1	1	0	4	2	2
Medical Office									
720 – Medical-Dental Office Building	1 D	22,500 SF	670	51	40	11	73	20	53
Community Policing									
730 – Government Office Building	1 D	2,000 SF	131	11	10	1	2	1	1
Subtotal of Phase 1 not including Library	1		2,185	129	71	58	187	87	100
Library									
590 – Library	1 (by KCLS)	10,000 SF	726	7	5	2	71	33	38
Subtotal of Phase 1 with Library	1		2,911	136	76	60	258	120	138
Subtotal of Phase 2	2		966	38	14	24	50	28	22
Total with Full Build-Out	Full Build-Out		3,877	174	90	84	308	148	160

The proposed Tukwila Village development would generate 3,877 new daily trips, of which 174 would occur during the AM peak hour and 308 during the PM peak hour.

Trip Distribution and Assignment

Based on the land use patterns in the general vicinity of the project, knowledge of the local transportation system, professional engineering judgment, and traffic counts along Tukwila International Boulevard, distribution and assignment of the project trips were estimated. The new project trip distribution is shown on Figure 4. New trips are estimated to travel to/from the site in the following pattern:

- 25 percent to/from the north on TIB towards Seattle.
- 25 percent to/from the west on S 144th Street towards nearby neighborhoods and Military Road S.
- 25 percent to/from the east on S 144th Street towards nearby neighborhoods.
- 25 percent to/from the south on TIB towards the City of SeaTac and State Route 518.

Pass-by traffic to/from Tukwila Village is shown on Figure 5 and was assigned based on where the uses were located on the site as well as the volume being carried in the future baseline 2016 traffic streams on TIB and S 144th Street, which indicated the following distribution for the Phase 1 pass-by trips, which are likely to arrive from both TIB and S 144th Street:

- 43 percent from southbound TIB

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

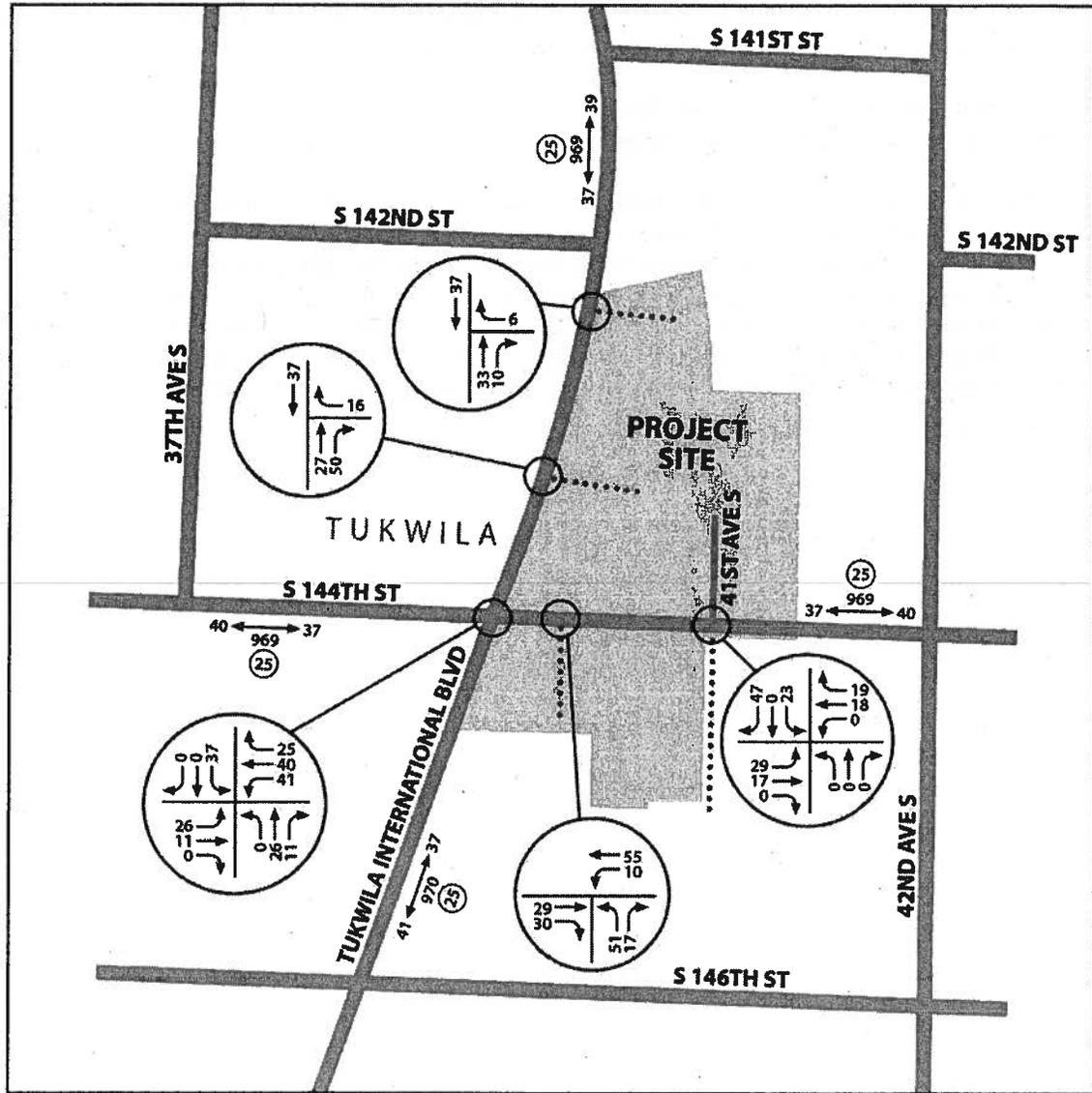
- 26 percent from northbound TIB
- 17 percent from westbound S 144th Street
- 14 percent from eastbound S 144th Street

For Phase 2 pass-by trips, the uses are set-back from TIB and much more likely to draw traffic only from S 144th Street. Given that, the Phase 2 pass-by traffic was distributed as follows:

- 54 percent from westbound S 144th Street
- 46 percent from eastbound S 144th Street

Lastly, because the project site provides non-motorized system improvements in project vicinity, crosswalk volumes were projected to increase by 50 pedestrians per hour with the completion of the project. For comparison, 50 pedestrians per hour represents the difference between the values suggested for assuming the number of pedestrians per hour in a rural area (zero pedestrians per hour) and a suburban area (50 pedestrians per hour). These values were documented in in the National Cooperative Highway Research Program (NCHRP) Report 599 – Default Values for Level of Service and Highway Capacity Analyses. The thought being the relative difference reflects the change from an undeveloped condition to a suburban development condition.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

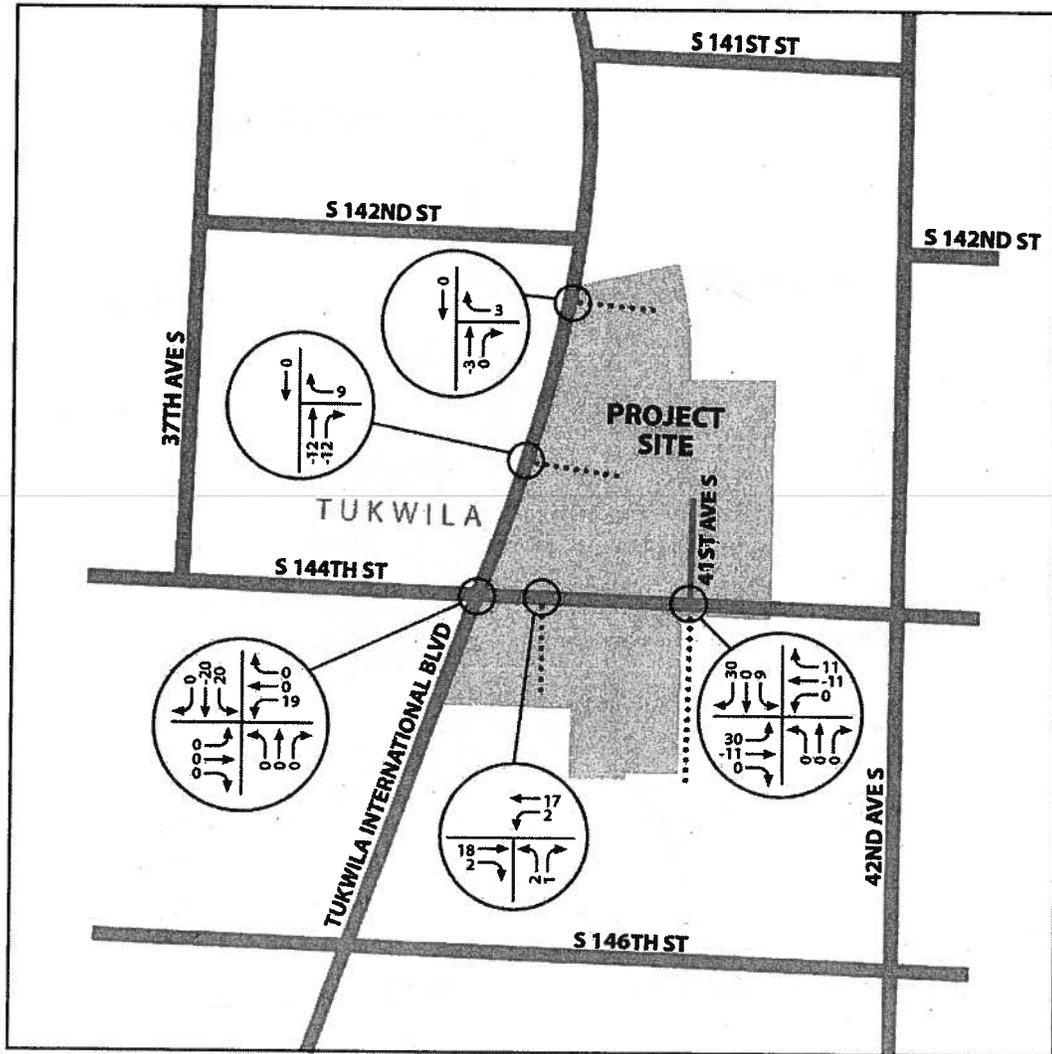


Legend

(25) Trip Distribution Percentage
 xxx Daily Trips
 x ↔ x Peak Hour Trips

Figure 4
New Project Trips
Distribution and Assignments

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)



**Figure 5
Pass-By Project Trip
Assignments**

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Future 2016 With Project Volumes

The trip assignments of new and pass-by traffic were added to the future 2016 baseline PM peak hour volumes shown on Figure 3, which resulted in the PM peak hour turning movement volumes shown in Figure 6. These volumes were used to assess the transportation system conditions with the project.

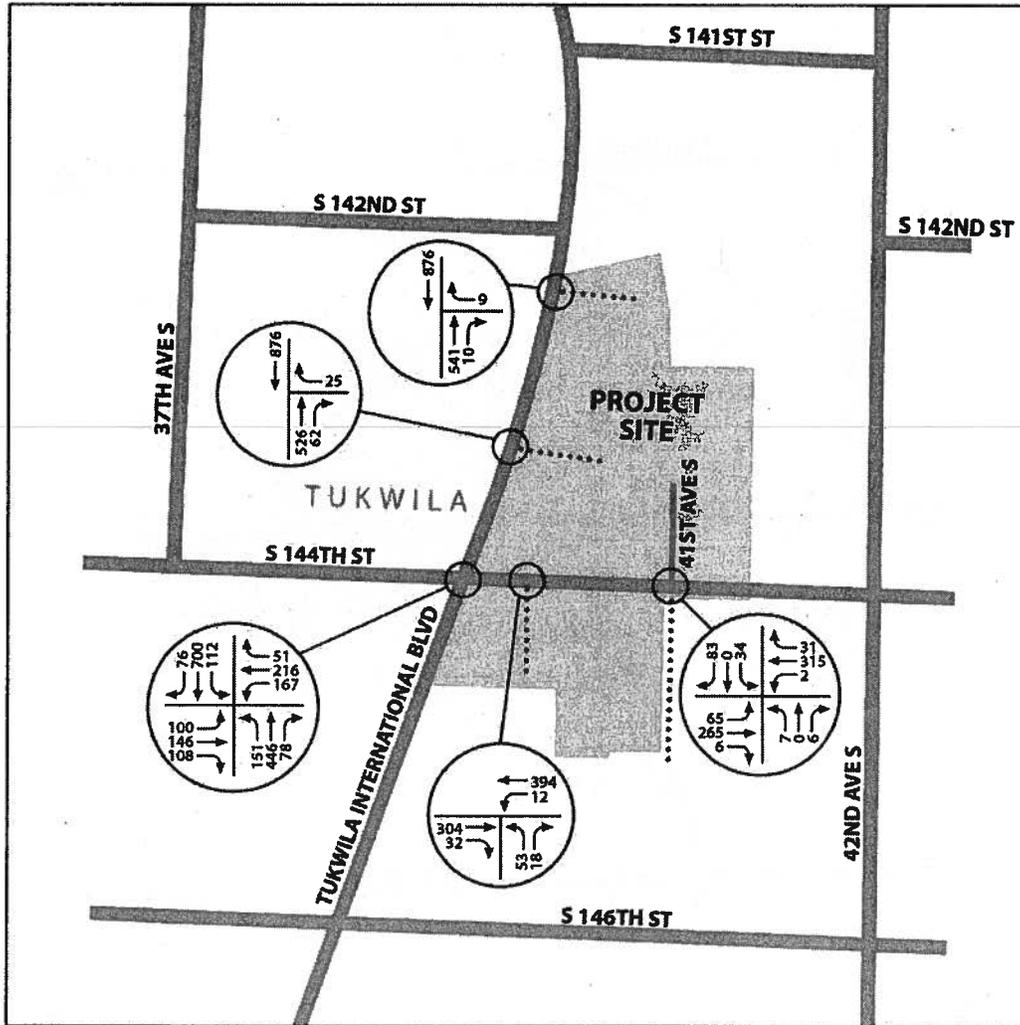


Figure 6
Future 2016 with Full Build-Out
PM Peak Hour
Turning Movement Volumes

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Parking Generation

ITE *Parking Generation, 4th Edition* was used to estimate the parking demand for the project. The proposed site uses were matched as close as possible to the data available. The parking demand estimates were compared to the proposed parking supply. A total of 431 parking stalls would be provided on-site of which 293 would be in-building (garages) and 138 spaces would be surface parking stalls. Additionally, 23 on-street parking spaces would also be provided. Table 8 below summarizes the anticipated parking demand for a typical weekday.

Table 8. Peak Parking Demand by Individual Use

Proposed Uses (Compatible ITE Land Use Code)	Peak Parking Demand Characteristics	Peak Parking Demand	
		Spaces	Hours of Day Parking Peaks
Family Apartment Units 84 Dwelling Units (Code 221 - Low/Mid-Rise Apartment)	1.42 spaces per dwelling unit minus 38 spaces	81	Overnight (12:00 AM-5:00 AM)
Senior Housing – Attached Units 310 Occupied Dwelling Units (Code 252 – Senior Adult Housing – Attached)	0.59 spaces per dwelling unit	183	Overnight (12:00 AM-5:00 AM)
Retail Space 17,000 Square Feet (SF) (Code 820 – Shopping Center)	3.76 spaces per 1,000 SF	64	Noon-1:00 PM
Library 10,000 SF (Code 590 – Library)	3.14 spaces per 1,000 SF	31	7:00 PM-8:00 PM
Medical Office 22,500 SF (Code 720 – Medical-Dental Office Building)	3.40 spaces per 1,000 SF minus 13 spaces	64	10:00 AM-Noon
Community Policing 2,000 SF (Code 730 – Government Office Building)	4.15 spaces per 1,000 SF	8	10:00 AM-11:00 AM

The sum of the above peak parking demands for the individual uses total 431 parking spaces (and the amount of on-site parking satisfies that amount) and because parking peaks at different times of the day, the actual maximum peak parking demand is less than 431 parking spaces, and would peak at 281 parking spaces in use in the evening from 6:00 PM to 7:00 PM. Table 9 illustrates this by summarizing the parking demand as it varies throughout the day using data from ITE.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 9. Hourly Variation of Parking Demand

Hour Beginning	Percent of Peak Parking Demand						Site Parking Demand
	Family Apartment Units ¹	Senior Housing-Attached ²	Retail ³	Library ⁴	Medical-Dental Office ⁵	Community Policing ⁶	
12:00 AM	100%	100%	9%				270
1:00 AM	100%	100%	9%				270
2:00 AM	100%	100%	9%				270
3:00 AM	100%	100%	9%				270
4:00 AM	100%	100%	9%				270
5:00 AM	96%	96%	9%				257
6:00 AM	92%	92%	9%				246
7:00 AM	74%	74%	5%		18%	59%	215
8:00 AM	64%	64%	18%	16%	64%	79%	233
9:00 AM	34%	34%	38%	45%	85%	83%	189
10:00 AM	32%	32%	68%	52%	100%	100%	216
11:00 AM	31%	31%	91%	70%	100%	92%	233
12:00 PM	30%	30%	100%	58%	88%	77%	224
1:00 PM	31%	31%	97%	79%	81%	59%	225
2:00 PM	33%	33%	95%	78%	90%	71%	235
3:00 PM	37%	37%	88%	84%	93%	78%	246
4:00 PM	44%	44%	78%	58%	86%	72%	245
5:00 PM	59%	59%	62%	49%	52%	46%	248
6:00 PM	69%	69%	64%	50%	63%	25%	281
7:00 PM	66%	66%	77%	100%			255
8:00 PM	75%	75%	70%	72%			265
9:00 PM	77%	77%	42%				230
10:00 PM	92%	92%	9%				252
11:00 PM	94%	94%	9%				254

- 1 For the family apartment units, the daily distribution for Low/Mid-Rise Apartment (ITE Land Use 221) was used, however, that data has a gap between 9:00 AM and 4:00 PM and the daily distribution for Rental Townhouse (ITE Land Use 224) was used for parking between 9:00 AM and 4:00 PM.
- 2 For the senior housing-attached units, no daily distribution data is available in ITE for Senior Housing-Attached (Land Use 252). Therefore, the assumed daily distribution for family apartment units was used.
- 3 For the retail uses, the daily distribution of parking demand for Shopping Center (ITE Land Use 820) for a non-Friday, non-December weekday was used. To account for live-in tenants at the live/work spaces, 9 percent of the peak parking demand was assumed, which amounts to 6 parking spaces and is equivalent to an increase of 4 apartment units generating additional overnight parking demand from 10:00 PM to 7:00 AM.
- 4 Used data for Library (ITE Land Use 590).
- 5 Used data for Medical-Dental Office Building (ITE Land Use 720).
- 6 Used data for Government Office Building (ITE Land Use 730), which provides data for the time period from 9:00 AM to 4:00 PM. That was supplemented with data from Office Building (ITE Land Use 701) for the hours from 7:00 AM to 9:00 AM and 4:00 PM to 7:00 PM.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Note that the above parking demand estimates have not been adjusted for the mixed-use nature of the site and the internal capture between uses, which would reduce the peak parking demand. The daily trip generation would experience a trip generation reduction of 10 percent due to internal capture and a similar reduction would likely occur for the peak parking demand.

One other factor that may reduce the overall parking demand is the close proximity to King County Metro bus stops on Tukwila International Boulevard and S 144th Street in the site vicinity (see the Transportation System Conditions section for detailed information about the routes and stop locations).

With the overall site peak parking demand peaking at 281 parking spaces, and 431 on-site parking spaces being provided, the proposed parking supply would be adequate.

TRANSPORTATION SYSTEM CONDITIONS

Street Descriptions

The street characteristics in the project vicinity along the project frontage are described in Table 10.

Table 10. Existing Street Characteristics in Project Vicinity

Street Name	Tukwila International Boulevard	S 144th Street
Functional Classification	Principal	Collector
Posted Speed Limit	40 mph	25 mph
Travel Lanes	Two through lanes in each direction with left-turn lanes and right-turn pockets at S 144th Street.	One through lane in each direction with left-turn lanes at TIB.
Non-Motorized System Improvements	Sidewalks on both sides of the street, but no bike lanes. Signalized crosswalks are provided at the east and west legs of the TIB/S 144th Street intersection. An unsignalized mid-block crosswalk with overhead flashing beacons is also provided north of S 144th Street across TIB.	West of TIB, there are sidewalks and bike lanes on both sides. East of TIB, there is continuous sidewalk along the north side and intermittent sidewalk along the south side. There are no bike lanes currently along either side. Signalized crosswalks are provided at the north and south legs of the TIB/S 144th Street intersection. An unsignalized crosswalk is also provided at the east leg of the S 144th Street/41st Avenue S intersection.
Transit Service Options	Bus stops for King County Metro Route 124 are located on the east side of TIB north of S 144th Street and on the west side of TIB south of S 144th Street. Metro Route 124 operates on 30-minute headways on weekdays and connects to both SeaTac and downtown Seattle.	Bus stops for King County Metro Route 128 are located on the north side of S 144th Street east of 42nd Avenue S and on the south side of S 144th Street west of TIB. Metro Route 128 operates on 30-minute headways on weekdays and connects Tukwila to West Seattle.

Crash History

The five-year history of vehicle crashes in the project vicinity was reviewed to see if the crash rate appeared to be unusually high. None of the locations studied experienced crash rates in excess of 1.0 crash per million entering vehicle. In other words, the crash rates were less than one in million. Additionally, no crashes were severe enough to cause fatalities. Table 11 summarizes the five-year crash history.

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Table 11. Five-Year Crash History – Crash Rate and Severity

Study Area Facilities	Exposure		Rate			Severity		
	Total Crashes	Time (years)	Est. ² Daily Volume (veh)	Crashes per Year	Crashes per Million Entering Vehicles	Property Damage Only	Personal Injury	Fatality
Street Intersections								
Tukwila International Blvd. (TIB) at S 144th Street	22	5	20330	4.4	0.6	15	7	-
S 144th Street at 41st Avenue S ³	0	5	5810	0.0	0.0	-	-	-
Street Segments								
TIB between: S 142nd Street and S 144th Street	20	5	13180	4.0	0.8	16	4	-
TIB between: S 144th Street and S 146th Street	22	5	15120	4.4	0.8	14	8	-
S 144th Street between: TIB and 41st Avenue S	4	5	5700	0.8	0.4	3	1	-
S 144th Street between: 41st Avenue S and 42nd Avenue S	6	5	5560	1.2	0.6	5	1	-

1 City of Tukwila records from July 1, 2007 through June 30, 2012.

2 Assumes that the daily volume entering the intersection is approximately 10 times p.m. peak hour volume.

3 Last reported crash here occurred prior to this 5-year reporting period.

The types of crashes were also summarized and those have been summarized in Table 12. The most frequently occurring crash involved a rear-end collisions, which are typically due to driver inattention and stop-and-go traffic.

Table 12. Five-Year Crash History – Crash Types

Study Area Facilities	Crash Type							
	Approach Turn	Head On	Backing	Fixed Object or Parked Vehicle	Rear End	Right Angle	Side-swipe	Pedestrian or Cyclist Involved
Street Intersections								
Tukwila International Blvd. (TIB) at S 144th Street	3	-	-	-	9	3	4	3
S 144th Street at 41st Avenue S ³	-	-	-	-	-	-	-	-
Street Segments								
TIB between: S 142nd Street and S 144th Street	-	-	-	1	16	1	2	-
TIB between: S 144th Street and S 146th Street	-	-	1	1	10	2	6	2
S 144th Street between: TIB and 41st Avenue S	-	-	1	-	3	-	-	-
S 144th Street between: 41st Avenue S and 42nd Avenue S	1	1	-	1	3	-	-	-
Study Area Total Crashes	4	1	2	3	41	6	12	5
Percent of Study Area Total Crashes	5%	1%	3%	4%	55%	8%	16%	7%

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

Level of Service at Intersections

Traffic operations were studied at the proposed site driveway intersections and the public street intersections of TIB/S 144th Street and S 144th Street/41st Avenue S. The quality of traffic operations at intersections was ranked with a level of service (LOS) on an alphabetic scale from LOS A to LOS F, with LOS A being the best operations and LOS F being the worst operations. This is consistent with the *Highway Capacity Manual* published by the Transportation Research Board. The deterministic software, Synchro version 7 (Build 773, Revision 8), developed by Trafficware, was used to study the intersection operations. Using the intersection traffic volumes shown on Figures 2, 3, and 6, the LOS results were obtained and are summarized in Table 13 below.

Table 13. Intersection Level of Service Conditions

Intersection	Existing 2012		Future 2016 Baseline		Future 2016 with Project	
	LOS	Delay	LOS	Delay	LOS	Delay
Tukwila International Boulevard at S 144th Street	C	35.0	D	36.1	D	38.9
S 144 th Street at 41st Avenue S/East Drive						
Northbound Approach	B	13.1	B	13.3	C	23.5
Southbound Approach	B	12.1	B	13.2	C	23.9
Tukwila International Boulevard at at North Drive (Westbound Approach)					A	8.9
Tukwila International Boulevard at at Main Drive (Westbound Approach)					A	9.0
S 144 th Street at South Drive (Northbound Approach)					C	19.4

None of the intersections operate worse than LOS D. With Tukwila Village, the intersection LOS would degrade from LOS B to LOS C, however, LOS C is still an acceptable LOS. As identified in the City of Tukwila Comprehensive Plan, the LOS standard is LOS D in residential areas and LOS E in commercial areas. Therefore, all of the study intersections would meet the LOS standard and no specific mitigation is recommended to improve the LOS condition at the study intersections.

Driveway Channelization

The proposed driveways operate at acceptable LOS with the channelization shown on the site plan. The Tukwila Infrastructure Design and Construction Standards do not contain specific channelization guidelines to follow for evaluating channelization proposed at driveways beyond LOS conditions, but do mention the City recognizes and uses the most current edition of *A Policy on Geometric Design of Highways and Streets* by the American Association of State Highway and Transportation Officials (AASHTO) for channelization guidelines. AASHTO does not have quantitative guidelines for recommending right-turn channelization and the City's standards indicate that the City recognizes the WSDOT *Design Manual* as a reference, which does have quantitative guidelines for right-turn channelization, therefore, that has been used to supplement the AASHTO reference.

The greatest potential need for left-turn channelization on a public street to serve movements into the project site would occur at the S 144th Street/East Drive/41st Avenue S intersection. In reviewing the AASHTO guidelines and extrapolating for a 30-mph operating speed, the combination of left-turn volumes, advancing and opposing volumes at the East Drive intersection do not warrant the a left-turn lane.

The greatest potential need for right-turn channelization on a public street to serve movements into the project would occur at the TIB/Main Drive intersection. At this intersection, 62 vehicles would turn into the Main Drive with 526 vehicles traveling advancing northbound behind them. However, there are two northbound travel lanes

TRAFFIC IMPACT ANALYSIS - TECHNICAL MEMORANDUM (CONTINUED)

and the posted speed limit is 40 mph there. The WSDOT *Design Manual* only recommends using the Design Manual Exhibit 1310-19 in developing recommendations for right-turn lanes when multilane facilities have posted speed limits of 45 mph or greater. Additionally, given that King County Metro has a bus pull-out in close proximity that would conflict with a right-turn lane, no right-turn lane is recommended on TIB at the Main Drive.

Driveway Sight Distances

The sight distance exhibits prepared by Barghausen Consulting Engineers indicate that the proposed driveway locations would have adequate sight distance per City standards. Therefore, no sight distance improvements are recommended. It is recommended that sight distance triangles be regularly maintained.

Driveway Access Spacing & Corner Clearances

The proposed driveways were located based on site constraints and access spacing and corner clearance requirements. Note: The East Drive/41st Avenue S was not checked because it exists in that location today. Table 14 summarizes the distances between intersection corners and accesses.

Table 14. Access Spacing and Corner Clearance

Access	Corner Clearance	Access Spacing
North Drive	530 feet edge to edge from TIB (560 feet centerline to driveway center) 70 feet edge to edge from S 142nd Street (110 feet centerline to driveway center)	270 feet edge to edge from Main Drive
Main Drive	230 feet edge to edge from S 144th Street (260 feet centerline to driveway center)	270 feet edge to edge from North Drive
South Drive	140 feet edge to edge from TIB (195 feet centerline to driveway center)	180 feet edge to edge from East Drive/41st Avenue S

MITIGATION FEE REQUIREMENTS

Mitigation fees are due to the City at the time of building permit issuance to pay for the project's proportionate share of impacts. Additionally, the proposed development must pass the concurrency test conducted by the City of Tukwila.

CONCLUSIONS & RECOMMENDATIONS

The proposed Tukwila Village would not create significant adverse impact on the transportation system. The primary recommendations are:

- Maintain clear sight triangles
- Pay for the project's proportionate share impacts via the City's traffic impact fee program