

BLOCK 137
LU 13-0046



Development Review Commission

January 29, 2014

EVERGREEN GROUP LLC

Dear Development Review Commission Members,

Our project team has reviewed the January 29, 2014 response provided by Kittelson and Associates to the questions raised by members of the Development Review Commission in the January 22nd hearing. The Kittelson January 29th response memorandum is attached here.

That memorandum analyzes the queuing impacts of the proposed development at the corner of A and State Streets, among other issues, and demonstrates that the proposed project contributes only 1.3% of the trips to that intersection and contributes less trips and queuing impacts than if the current Wizer block were simply re-occupied with retail uses. While there is no nexus within the Lake Oswego Code for requiring Block 137 to provide any queuing mitigation at this intersection, it seems that it would provide a general community benefit to synchronize the ODOT and City signals and therefore reduce the queue. We are therefore willing to volunteer a financial contribution to the future signal coordination project.

Kittelson has estimated the costs at \$35,700 for traffic signal coordination. While our trips represent 1.3% of intersection volumes we offer to contribute 30% of the signal coordination costs or \$10,710.00.

Thank you for your continued consideration.

Best regards,

Patrick H. Kessi

EVERGREEN GROUP LLC

Dear Development Review Commission Members,

We understand we have a very limited opportunity to verbally rebut opposition comments and respond to questions raised by members of the Commission. It is our understanding that we will have a five (5) minute rebuttal period at the end of the testimony. As this will not be enough time to adequately respond, we appreciate your thoughtful consideration of the responses we provide below.

EC Standards

Together the EC zone and the Downtown Redevelopment District establish the code standards for this project.

On the issue of height and density, the code leaves no uncertainty that Block 137 is entitled to 60 feet in height and 3:1 Floor Area Ratio ("FAR"). Both of these allowances are stated as clear and objective numerical standards with no provision for reduction in development review.

The site is zoned EC. Table 50.04.001-14 regulates height and FAR in the EC zone. That table has a column for the EC zone followed by rows regulating FAR and height among other elements. (See Exhibit A). The table states that the FAR for this EC zoned site is 3:1 and the height is 60 feet.

The Table does not leave any ambiguity that this is the outright permitted height and density on this EC zoned property and is not subject to any new minimum or maximum by the Development Review Commission. In italics and emphasized at the top of the Table, the code states:

"If a dimension or requirement is not shown it means there is no minimum or maximum, but that the requirement may be established at the time of Development Review Commission review." (Emphasis added; see code excerpt highlighted on Exhibit A, page 1).

Importantly here, both the 60-foot height limit and the 3:1 FAR are specifically listed in the code table. Because they are specifically listed, they are shown, and they are not subject to a new minimum or maximum at the time of Development Review Commission review.

This is not only supported by the clear code language, it is also supported by the remaining provisions on height and the law affecting the interpretation of code provisions.

The remaining provisions on height further establish an intended layering of height as the geography moves toward the city center and away from the R-6 and R-7.5 zones. Attached as Exhibit A, page 4, is another code excerpt entitled "Additional Standards and Exceptions." That section establishes "EC Zone Height Measurements" and creates an intentional layering of height as properties are located a growing distance from residentially zoned land. **It is a code compatibility standard.** Where a lot abuts an R-DD zone, the EC zone height of 60 feet is reduced to 40 feet. Where a structure is within 120 feet of a lot zoned R-6 or R-7.5, the 60-foot height is reduced to 35 feet for the portion of the structure within 120 feet of a lot zoned R-6 or R-7.5. For a structure that is 120 feet to 240 feet of a

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lot zoned R-6 or R-7.5, the 60-foot height is reduced to 45 feet for the portion of the structure that is 120 feet to 240 feet of a lot zoned R-6 or R-7.5.

"And for all other lots and those portions of structures beyond 240 feet of a lot zoned R-6 or R-7.5, 60 feet."

Attached as Exhibit B is a map showing the distance from Block 137 to the nearest R-6 or R-7.5 zoned lot. Block 137 is located more than 240 feet from any R-6 or R-7.5 lot. Thus there is no code allowed reductions in the 60 feet. Instead the opposite is true. The City Council has an intentional and deliberate height policy. Block 137 is one of the blocks where the City wants 60 feet, it allowed 60 feet, and it explicitly did not permit any reductions to the 60 feet. Sixty feet on Block 137 is the code.

Conversely, Block 136 falls within two of the code required height reduction areas. It is located within both 120 feet and 240 feet of an R-7.5 zoned parcel and would be required today to maintain a maximum height of 35 feet and 45 feet within this 240 foot area. This is intentionally less than Block 137. The code does not permit one to reduce the height of Block 137 to match or to be compatible with Block 136. The code already addressed that compatibility standard through clear and objective standards based on distance from residentially zoned lands.

One is also not permitted in a quasi-judicial application to change these code requirements, transpose the columns in Exhibit A, or read language out of the code. One is not permitted to omit what has been inserted or insert what has been omitted. ORS 174.010; see, e.g., *Thielemann v. City of Medford* (Or LUBA No. 2001-031; August 3, 2011). In *Thielemann*, LUBA found that the City could not create a new setback exemption via interpretation during a quasi-judicial land use case:

"In adopting MLDC 10.830, the city expressly exempted towers from the height limits that would otherwise apply under the MLDC. The city did not adopt any express exemption for setbacks. The city's "interpretation" adds to the MLDC 10.830 building height exemption, which the city expressly included in MLDC 10.830, a rear yard setback exemption, which the city did not include in MLDC 10.830 or elsewhere in the MLDC. The city may not insert such a setback exemption by interpretation."

See also, *Lee v. City of Portland*, 646 P.2d 662, 57 Or.App. 798 (Or. App., 1982), which explains that ORS 227.173(1) requires land use decisions be based upon clear standards and criteria. ORS 227.173(1) states:

"Approval or denial of a discretionary permit application shall be based on standards and criteria, which shall be set forth in the development ordinance and which shall relate approval or denial of a discretionary permit application to the development ordinance and to the comprehensive plan for the area in which the development would occur and to the development ordinance and comprehensive plan for the city as a whole."

As explained in *Lee*:

"Reduced to its essentials, ORS 227.173(1) requires that development ordinances set forth reasonably clear standards for discretionary permit applications. The intent of the statute is to insure that those standards be the

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sole basis for determining whether a discretionary permit application is approved." *Lee*, 57 Or. App. at 801.

Here the City of Lake Oswego has adopted a clear and objective height standard for the EC zone at 60 feet and a density standard of 3:1 FAR. It has specifically directed that because the numerical height allowance of 60 feet and 3:1 FAR are shown in Table 50.04.001-14, they are not subject to any new minimum or maximum by the Development Review Commission. And the City has established another set of height reductions where the property is located within 120 feet or 240 feet of an R-6 or R-7.5 zoned lot. Block 137 is outside of these height reduction areas. Consequently, the DRC is not permitted to introduce a new height reduction provision into the code in a pending quasi-judicial application. ORS 174.010, ORS 227.173(1) and a long list of LUBA and Court of Appeals cases prohibit such an interpretation.

The City Council also made a choice when it adopted the density provisions of the EC zone. It could have regulated the density in the EC zone by number of units per acre or maximum lot coverage. In fact, the code does just that in other zones that permit residential uses. Not in the EC zone. In the EC zone the code in Exhibit A is clear. Density is regulated by FAR. If you are at or under 3:1, you are permitted. The Development Review Commission is not permitted to reduce this density or change this density to number of units per acre in its review process. Instead, where the density is numerically indicated in an objective standard, it is not subject to a new minimum or maximum in DRC review. (See Exhibit A, page 1 and LOC Table 50.04.001-14).

If a change to the code requirements is desired, one is required to legislatively amend the code. In the interim, ORS 227.178(3)(a)¹ requires the City to apply the regulations that are in effect at the time an application is deemed complete. Our application was submitted on September 11, 2013 and deemed complete on December 24, 2013. On those dates and currently, the EC zone entitled Block 137 to 60 feet in height and a 3:1 FAR with no compatibility reductions based on proximity to other residentially zoned lands or on any other express or implied reduction.

In sum, the Lake Oswego code intentionally and expressly established the entitlements for Block 137. Those entitlements include a 60 foot height allowance and a 3:1 FAR. There are no code permitted reductions to these express entitlements and no new reductions can be created or applied during this quasi-judicial proceeding.

¹ ORS 227.178(3)(a) establishes a "fixed goal posts" rule for applications for permits, limited land use decisions and zone changes. ORS 227.178(3)(a) provides:

"If the application was complete when first submitted or the applicant submits the requested additional information within 180 days of the date the application was first submitted and the city has a comprehensive plan and land use regulations acknowledged under ORS 197.251, approval or denial of the application shall be based on the standards and criteria that were applicable at the time the application was first submitted."

ORS 227.178(3) and the associated judicial doctrine limit the authority of local governments to change a local provision in the course of a quasi-judicial permit proceeding. *See, e.g., Holland v. City of Cannon Beach*, 154 Or App 450, 962 P2d 701 (1998); *Bemis v. City of Ashland*, 48 Or LUBA 42 (2004), *aff'd* 197 Or App 124, 107 P3d 83, *rev. den.* 339 Or 66 (2005). The "goal-post" statutes at ORS 215.427(3) and ORS 227.173(1) provide certainty to applicants regarding the standards that will apply during the course of a land use approval process, such as the height and FAR standards applicable in this case.

Downtown Redevelopment Design District (“DRDD”)

No provision of the DRDD alters the height or density analysis. That district instead states:

“No building shall be taller than 60 ft. in height. No flat roofed building shall be taller than 41 ft. in height. Height shall be measured pursuant to this Code.”

The 60 foot height allowance is repeated and not altered in the DRDD. If the City intended to alter the EC 60-foot height allowance in the DRDD, it could have easily done so by simply calling for a reduction from 60 feet to some lesser height. And it did just that for flat-roofed buildings. It did not do so for any other building type. Where the code specifically reduces height for one building type but does not include a reduction for any other building type, the common rules of statutory construction require the City to apply the reduction to only the building type listed. ORS 174.010; *Western Land & Cattle, Inc. v. Umatilla County*, 230 Or.App. 202, 209-10, 214 P3d 68 (2009). The courts have restated similar principals in *Siporen v. City of Medford*, 349 Or 247, 243 P3d 776 (2010) and *D.C. Riverkeeper v. Clatsop County*, 243 P.3d 82, 238 Or.App. 439 (Or. App., 2010).

The DRDD therefore maintains the 60-foot height allowance for the proposed project and provides no exception to height that would be applicable here. The code provides a 41-foot height for flat-roofed buildings, only. It specifically excludes from that reduction any other building type such as the gabled or pitched roof buildings in this proposal. Those building types maintain the 60-foot height allowance. Thus, the DRC cannot as a matter of statutory construction extend the flat roofed reduction to any other roof form under ORS 174.010(1) and *Western Land & Cattle*.

In sum, there is no conflict between the EC base zone regulations and the DRDD regulations on the issue of height or density for this design proposal. Under LOC 50.05.004(3)(e), the 60-foot height allowance and 3:1 FAR continue to apply and there are no applicable reductions in the DRDD to this height or density allowance.

In our hearing on January 22nd, there was some attempt to re-characterize these code sections in an effort to reduce height. This included characterizing the building as a flat-roofed building, relying on the height of adjacent parcels, and inserting height into the definition of village character. Each of these comments is addressed below.

1. Flat Roof

Block 137 is not a flat-roofed building. All exterior roofs are gabled or pitched. In areas where there is mechanical equipment, screened from any public vantage point, the area of the interior roof is a low slope to accommodate such equipment. Under these same circumstances, Lake View Village and 555 were not considered flat-roofed buildings. We compared the roof elevations of 555, Lake View Village and Block 137. (Exhibit C). Lake View Village contains a pitched façade and behind that façade, the roof is low slope over much of the entire interior roof area. The 555 building is also shown and has a pitched or gabled exterior and low slope interior. These comparisons demonstrate that Block 137 is not a flat-roofed building, has a pitched and gabled roofline like 555 and Lake View Village and has low slope roof only in the interior mechanical equipment bays like 555 and Lake View Village, both of which were not considered flat-roofed buildings under the code.

The distinction between flat roof and pitched or gabled roof is an important one. The flat roof is perceived as a one dimensional roof line along the street facing facades. It is also the top of parapet. The pitched or gabled roof creates more dimensions to the design form. The code intentionally encourages this form through the Lake Oswego Style and through the allowance of additional height (60 feet instead of 41 feet) since the height is measured from the high point of the gable. It is these gabled roof forms that are visible to the public, similar to the condition at Lake View Village.

The building is therefore designed with a pitched and gabled roof and is not a flat-roofed building. Thus, the 60-foot height limit continues to apply. The comment regarding the “truncated” gable is addressed below.

2. Effect of Neighboring Properties

It was implied that the choices neighboring property owners make on height for their properties is a valid basis for a height reduction on an adjacent site. In other words, if a neighboring property like Block 136 has a lower code allowed height of 35 feet or 45 feet or chooses to build lower than the height limit for a myriad of reasons, that the new height establishes the new allowance for height on an adjacent block.

As detailed above, the City already established a layered height compatibility standard in the EC zone based on distance from R-6 or R-7.5 zoned land. One property owner’s choice to build under those heights does not change the zoning code. One of the main purposes of the zoning code is to establish certainty in a landowner’s investment-backed expectations and to provide that same certainty to stakeholders who can look to the zoning code to see what would be allowed on neighboring properties. The zoning code establishes the entitlements, exhibited here in a clear and objective manner. To take those standards and subject them to a new sliding scale based on what your neighbor decided to do seriously undermines the certainty of the code and impedes investment in downtown properties. It is also not permitted under long-standing Oregon case law. *See, e.g., Thielemann v. City of Medford* (Or. LUBA No. 2001-031; August 3, 2011)(City could not create a new setback exemption via interpretation during a quasi-judicial land use case).

Lastly, as proposed Block 137 has a height range from 47 feet to 58 feet. Block 136 has a high point of 44 feet at A Street Station and Block 138 has a high point of 63 feet. The Block 137 height range is compatible and falls between these heights on both neighboring blocks.

3. Impact on other Zones

There are several other zones across the City where the zoning code shows a specific numerical height allowance and does not subject that height to reduction in the development review process. If the DRC establishes a precedent that regardless of whether your property has a specific height listed, it can take away that height based on factors not written in the code, significant property rights will be threatened. If that is the intention, that type of change deserves city-wide public notice and a legislative amendment process.

4. Village Character

The definition of village character has absolutely no reference to height. Instead it refers to small-scale structures, not intended to encourage historical replication, a sophisticated small city that is pedestrian friendly, etc. None of these general statements

can be read as a new height limitation where the height and density for the property are objectively and numerically stated under the EC base zone and repeated in the DRDD provisions. Most importantly, the first phrase of the village character definition states: "As used in this section, village character means..." The section referred to then states:

"Building siting and massing shall create a village character by compliance with the following requirements:

...

(e) No building shall be taller than 60 ft. in height. No flat roofed building shall be taller than 41 ft. in height. Height shall be measured pursuant to this Code." (Emphasis added; Exhibit B).

The code language is objectively clear. A project "shall create a village character" by compliance with the 60 foot height allowance. This explicit code language cannot plausibly be read any other way. The 60-foot height allowance stated unequivocally in the EC base zone and again in the DRDD complies with village character. If this language is ignored, and village character is instead used here to reduce the height of the building, this code section LOC 50.05.004(5) and (5)(e), would have no meaning at all. In fact, requiring a reduction in height in an effort to comply with village character actually violates this code section. Thus, village character cannot be used to reduce height since the very definition of compliance with village character includes the 60-foot height allowance.

5. The Urban Design Plan ("UDP")

The UDP was cited as a reason to reduce height. The UDP is relevant here only as an approval criterion for the exceptions requested. Consistent with the Lake Oswego code structure, the only reference to the UDP as an approval criterion in either the staff report or the application is in the context of the five exceptions. The UDP is not an approval criterion for any other element of the proposal that does not require an exception. No exception to height is needed or requested here so the UDP is not applicable to the height discussion.

More importantly, there are no numeric height regulations in the UDP. One party cited the location of Block 137 in the Shopping District under section 4.2 of the UDP as a basis for reducing height and density. Under the narrative on Form in section 4.2, the UDP refers to "four-story buildings", a "combination of commercial office space and housing." (Exhibit D). These statements are broad enough to support a myriad of use types and forms and certainly do not have the specificity of a numeric height regulation that would supersede or overrule the 60 foot height allowance in the EC and DRDD areas.

Interestingly, the UDP contains a vision for the downtown residential district immediately next to Block 137 and states "a mid-rise component being highly desirable." A mid-rise is defined by implication between a low-rise and a high-rise as a 40 foot to 75 foot building with 4 to 7 stories. (Appendix N: 2010 Oregon Structural Specialty Code)². That

² Appendix N to the 2010 Oregon Structural Specialty Code addresses low-rise buildings, and in AN103.2.1 states that "Low-rise residential multifamily dwellings shall be limited to a maximum of 40 feet (12 192 mm) in height and three stories." The specialty code defines a high-rise building as "A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access." 2010 Oregon Structural Specialty Code, Section 202, Definitions. This

adjacent site referred to in the UDP is Block 136 and within the DRDD. The plain language of the UDP in one case supports a definition of village character that includes a 4 to 7 story building at 40 to 75 feet in height. While the UDP could be used to support the building proposed here, we do not rely on the UDP for anything other than the exceptions, none of which relate to height. Rather, this application relies on the EC and DRDD provisions that specifically allow a 60 foot tall building at 3:1 FAR on this site.

Number of Stories

1. The Difference Between May and Shall

Commissioner Needham questioned whether the code allows four stories because that section of the code contains the permissive term “may.” Commissioner Needham stated that “may” is substantially different than “shall” and therefore cannot be interpreted the same way. He also mentioned that he asked for a City Attorney opinion on the matter. The City Attorney responded and we concur with that response. The City Council answered the question posed by Commissioner Needham in Ordinance No 2579 adopted by the Council on March 20, 2012 by unanimous vote:

“The reorganization, reformatting, and consolidation of the Community Development Code, Solar Access and Historic Preservation chapters, and the Fence Article are not intended to result in any substantive changes to the existing content of these codes.” (Exhibit E) (Emphasis added).

Section 26 then states that the City Manager may grant a code reorganization variance to any substantive provision of Chapter 50 if the development right was substantively altered through the reorganization.

The previous version of the 4-story allowance included the term “shall” instead of “may.” Commissioner Needham stated that the difference between “may” and “shall” is substantial and, for Commissioner Needham, changes the meaning of the requirement. In these cases, the City Council was clear and specifically ordered that those changes not be given any effect and the City grant a variance from the change if one is required.

Thus, by unanimous order of the Council, the 4-story allowance is not permissive but instead allowed if one of the four conditions of LOC 50.05.004(5)(d)(i) is met. The Staff Report addresses this Council Ordinance and its directive at page 9.

In sum, the scrivener’s change from “shall” to “may” can have no substantive impacts on the fourth story allowance. The Staff Report also evaluates each of the four story facades and concludes that the fourth story meets at least one of the four conditions and in many cases several of the conditions. Therefore, the fourth story is permitted under the code.

2. Interior Courtyard Elevations

In the hearing on January 22nd, there was a question about the interior courtyard elevations and the fourth story located on the interior of the site. The Staff Report addresses this question at pages 9-10 and we address it here as well.

typically would translate to about 8 residential stories. By implication, a mid-rise is defined as a 40 to 75 foot building with 4 to 7 stories.

First, the story regulations normally apply to the exterior building facades. Because this block is being divided into three distinct buildings, there are interior pedestrian walkways revealed that introduce what is normally an exterior building wall regulation into the interior design. The north-south walkway is not required under the code and it is not a public pathway even under this application. It is also important to note that the exterior wall facing First Street is four stories and that fourth exterior story is on the same level as the fifth interior story. (See Exhibit F).

Regardless of this analysis, we are willing to make several changes to the interior façade since the hearing on January 22nd that squarely respond to the setback criteria of LOC 50.05.004(5)(d)(i). We have taken the fourth floor interior wall and set it back from the third floor by 5 feet along substantial portions of the façade and on each residential unit. The fifth story in this location is setback another 5 feet from the fourth floor in each residential unit, creating a total setback of 10 feet for the fifth floor from the third floor wall plane along substantial portions of the facade. (Exhibit G).

There is no location on the project where a fifth story is across from any other fifth story. Rather, the limited interior fifth floor roofline is across from an interior fourth floor roof line. These rooflines are all within the 60 foot height allowance and separated by a horizontal distance that is at least 20 feet in the areas of the north-south internal passageway and 32 feet in the east-west passageway. Adding to these base horizontal distances are the large courtyard along the north-south passage and the fourth and fifth floor setbacks from the third floor wall plane. It is also important to recall here that the fourth and fifth stories are setback in such a way that they both recede from "street view." The pedestrian experience in this area will be that of a three story building as shown in the east-west path rendering.

Commission Needham asked where in Lake Oswego is there a like condition.

We do not know whether this exact condition exists anywhere in Lake Oswego but we know that the Lake Oswego Style does not require that we replicate existing conditions. Instead we are encouraged to "borrow" from the three listed styles and encouraged to include "modern interpretations of those styles." This unique interior space introduces a connecting set of pathways amid well designed and pedestrian scale buildings with rich pedestrian amenities. The village feel on the surrounding streets is threaded through the block creating new interior block spaces that expand the unique character of place and create new experiences for the residents and visitors of the downtown.

In our case, the fourth and fifth stories are highly articulated with quality materials and design and create an interior courtyard for residents and members of the public who wish to cross from north to south or east to west through the block. Thus, whether this space can be made analogous to other existing spaces in Lake Oswego seems like the wrong question. The space itself presents a quality response to the DRDD provisions and the EC standards and demonstrates compliance with all of the relevant approval criteria.

3. The Relationship Between Story and Height

The overall size of the buildings is not a result of the number of stories. Instead it is a result of the allowed height and density. To simplify this point, the FAR and height create the overall building envelope restrictions. What uses are in the building will determine how many floors fit in that permitted building envelope.

Some examples are instructive. In the EC zone, office, residential and retail uses are permitted outright. The code does not require any percentage mix of any of these uses. The site can be all retail, all office or some mix of the above as proposed here. The typical floor to floor height of retail uses is 15 feet to 20 feet and most retailers prefer 20 feet. As an example, the floor to floor retail heights at Lake View Village range up to 20 feet and the office spaces above range from 10 feet to 14 feet. Thus, in a 60-foot height limit, one could have 3 floors of retail. The 20-foot retail ground floor could also accommodate upper office floors of 14 feet each, coming in at 48 feet, within the 60-foot height limit. A mixed use retail and residential structure would have different floor to floor requirements. The 20-foot ground floor retail leaves 40 feet for residential under the 60 foot height limit. With 10 foot residential floor to floor heights, the retail ground floor could be developed with four stories of residential, all under the 60 foot height allowance.

Under any of these configurations, the permitted height and density (the building envelope) does not change. The floors vary to accommodate the type of use. The EC zone allows this variety intentionally with the 60-foot height allowance and the permission to go to four stories under certain conditions and a fifth story as an exception.

The floor count will not change the height of Block 137. On Second Street, the exterior fifth floor is aligned and on the same level as the interior fourth floor. On First Street the exterior fourth floor is aligned with the interior fifth floor. If the DRC for example rejects the fifth floor on Second Street, the building height will not change. Instead the ground floor will likely change to retail with a 20 foot floor to floor as allowed by the code, topped by 3 floors of residential for a total height the same as originally proposed and as allowed by the code. The project would retain the top floor units with their views to the lake. The units would be designed exactly as presented at the same height elevation. This result is illustrated in Exhibit H. Floors 1 and 2 would become one 20-foot retail floor, replacing 2, 10-foot residential floors, maintaining the overall height of the building and the lake view top floor units.

We do not prefer this configuration as it places retail across from the townhomes but it is a likely result of reducing the stories from five to four without reducing the height.

Lastly, the number of stories Block 137 proposes (all within 47 feet to 58 feet) only helps to further articulate the façade, introduces more plane changes, breaks down the exterior into pedestrian scale, and adds to the vitality of the design. Simply put, the “story” presents as a horizontal façade change on the exterior wall and well within the allowed height.

In sum, the number of stories will not change the height or density of this proposal. All facades with five stories are within the allowed building envelope of 60 feet and 3:1 FAR.

Location of Retail

The design team explored the possibility of additional retail in other locations, but these locations were found to be inferior and more likely to result in empty storefronts rather than successful retail spaces: 1) Second Street across from the residential townhomes. This location was found to be inferior for several reasons. The residential townhomes across the street make double-sided retail impossible in this location. Single-sided retail typically is not as successful as double-sided retail. In addition, placing retail spaces in this more residential location could increase neighborhood traffic and noise, which would not be desirable; and 2) along the pedestrian walkway between First and Second Streets. This location also was

considered for retail spaces, but the lack of visibility from the street and the lack of vehicular access make this location less desirable for retail uses. The experienced retail brokers who are marketing the proposed spaces are in agreement that the retail locations currently proposed for Block 137 are appropriate.

Furthermore, as the applicant stated in the last hearing, if demand is found to exist for retail on the interior of the development in the future, there is flexibility to convert additional space.

The Lake Oswego code does not contain a provision that requires a certain amount of retail versus residential uses in the EC zone. To insert that requirement into the code, would be to insert what has been omitted in violation of ORS 174.010. The applicant in this case conducted a comprehensive retail study for the site. The results of that study have materialized in this proposal. The objective for the retail percentage in this case is to supplement and complement the existing retail in the area but not include more retail than the market and environment will bear. At 28,000 square feet, the project properly balances all of these factors. For reference, the amount of retail proposed on Block 137 is appropriate for the neighborhood. There is approximately 50,000 square feet of retail and restaurant (excluding office uses) on Block 138. There is approximately 16,000 square feet of retail and restaurant on Block 136 at A Street Station. The amount of retail and restaurant proposed on Block 137 is 28,000 square feet, which falls in the middle of the two surrounding developments.

Survey Results are Not Planning

The City reports that 38 proponents signed up to testify in favor of the application; 40 signed up to speak against; and 2 signed up as neutral. This represents a nearly even split. One testifier in favor cited a survey that showed majority support; one cited a survey that he promised to share at the next hearing that showed a majority not in favor of the proposal.

While these results can measure a segment of public opinion, legitimate findings under the approval criteria cannot rely on polling results, whether in favor or not in favor.

If the City decides that it is time to re-evaluate the code and make amendments to the height, density or permitted number of stories, it can do that. To do so, the City would have to initiate a legislative action with proposed code amendments, study the planning, economic and livability impacts of reducing the code-allowed height and density, hold hearings, accept testimony and make a final decision. That kind of action cannot occur in a pending quasi-judicial land use application.

As noted above, ORS 227.178(3)(a) prohibits the City from “moving the goal posts” during a land use proceeding. Approval or denial of the application “shall be based on the standards and criteria that were applicable at the time the application was first submitted.” ORS 227.178(3)(a). While the City is free to amend its code to change the way that height limits are applied to sites in the EC zone and the DRDD, it may not do so by interpreting the existing code to say something that it does not say. See, e.g., *Scovel v. City of Astoria* (Or. LUBA No. 2009-116, January 28, 2010); *Goose Hollow Foothills League v. City of Portland*, 117 Or App 211, 218, 843 P2d 992 (1992).

Truncated Gables

It is worth repeating the definition of Lake Oswego Style:

“A building design that borrows from the City’s historic architectural traditions including the Arts and Crafts, English Tudor and the Oregon Rustic styles. Buildings which use complex massing, asymmetrical composition and natural materials exemplify this style (see photos and descriptions in LOC 50.11.001. Appendix A: Lake Oswego Style). Adherence to the Lake Oswego Style is not intended to require historical replication. Modern design interpreting, quoting or utilizing the above noted stylistic forms are also encompassed within this definition.” (Emphasis added).

This language must be given meaning in this design process. The definition allows one to “borrow” from the noted styles, but specifically does not require perfect historical replication and encourages “modern design interpreting” the styles. The photos of the styles are contained in Exhibit I. The Block 137 architects studied these photos, conducted other studies of English Tudor architecture, and designed the Tudor gable as presented here. The City’s architect reviewed these gables and concurred that they borrow from the English Tudor style, are in a myriad of other ways and through other elements highly consistent with Tudor style and are certainly within the code definition of the Lake Oswego Style that permits and even encourages designers to design modern interpretations of the stylistic forms.

Exhibit J contains a summary of a design exercise conducted by ZGF demonstrating how the gable form emerged. The gable applied here is almost a complete replication of Tudor gables, and, if not perfect, at the very least a permitted modern interpretation borrowing from the stylistic form.

Lastly, there was a suggestion that the truncated gables are proposed as a means to stay within the 60-foot height allowance rather than an intentional design element. This is simply not correct. The gables are well within the height limit at a maximum height of 58 feet. That peak form was simply not preferred by the design team or the City’s architect and is not required to satisfy the Lake Oswego Style. The proposed interpretation also provides some visual relief from the repetitive nature of this “peak” use on nearby developments.

Sun Studies

The Staff Report addresses the sun studies at page 4. There is no solar access requirement for Block 137 or approval criteria related to solar access. Instead under LOC 50.06.007, the code’s solar access provisions apply only to single-family detached dwellings. The applicant however did study the shading patterns in the area and presented those studies to the City. They are included in the record and were referenced at the January 22nd, 2014 hearing.

As would be expected in a downtown core, the sun studies show that the three successive blocks, Block 136, Block 137 and Block 138 provide a common shadow distribution on June 22nd at 6:00 pm. At other times on that day Block 137’s shadows do not reach the Lake View Village sidewalk. On June 22nd at 6:00 pm one can see that Block 136 shades the sidewalk of Block 137, Block 137 shades the sidewalk of Block 138 and Block 138 shades the sidewalk of State Street as shown in the submitted sun studies, regardless of their variety in height.

At no time does Block 137 cast any shade on Millennium Park or the outside eating areas of St. Honore, Manzana and Blast Burger.

Number of Buildings

The code does not regulate the number of buildings on a site within the 3:1 FAR. But during the hearing some comments were directed to the comparison between Lake View Village and Block 137. Attached as Exhibit C is an aerial image of Lake View Village. Four of the buildings are conjoined with the parking structure, creating one building mass. The remaining two buildings stand alone for the appearance of three buildings. Block 137 contains three distinct buildings separated by through pedestrian walkways. (Exhibit C). In short, Lake View Village successfully integrated more than one building on site. A multiple building approach is also proposed here.

Traffic and Parking

Kittelson has provided a comprehensive response to all of the questions raised in the January 22nd hearing. That response is attached as Exhibit K.

In sum, the proposed development will have lesser transportation impacts that if the existing Wizer development was re-occupied by retail tenants. The applicant also recognizes that the City has an existing queuing issue at the intersection of State and A Streets. The applicant's trips constitute only 1.3% of the total trips at that intersection. Nonetheless, the applicant recognizes the community benefit of coordinating the signal timing at this intersection to reduce the queuing. Thus, the applicant has offered to contribute 30% of the costs of that signal coordination or \$10,500.

On parking, the proposal is providing more parking than required by code. Thus, there is no basis for any claim that the parking is "insufficient." We have provided more than the required parking so that there is capacity to serve uses other than our own and to help serve public events. In terms of parking management during Farmer's Market, the Parking Agreement between the City and Block 137 provides that all 135 retail spaces be available for public use and establishes free parking at 3 hour intervals. The City requires the manager of the special event to manage the impacts of the event, not the surrounding property owners.

We have met and exceeded the code required parking requirement for the development and meet all of the required measurements for level of service at the study intersections.

Parking Ramp and Pedestrian Safety

The retail parking access on First Street will be the only access point on the west side of the block frontage. In this way, all vehicles will have a clear entrance and egress point and pedestrians will not have to navigate multiple curb cuts. The design of the parking ramp provides a nearly level point at the juncture with the public way. This provides a place for vehicles to come to rest while the driver assesses the public way for clear passage. The entrance has been designed to protect against vehicular and pedestrian conflicts using a change in paving color and texture and provision of lighted bollards at the juncture of pedestrian and vehicular crossing. We are exploring the potential for the lighted bollards to change from steady to 'blinking' lights when a vehicle is on the exit ramp from the garage. We will provide strategically placed convex mirrors at the parking entrance, as well, to aid both pedestrian and driver in identifying each other's presence. (See Exhibit L). In this way, the pedestrian path will be safe, accessible and convenient, consistent with code requirements.

EVERGREEN GROUP LLC

Half-Unit Calculation

The reason the .5 unit in the fifth floor is shown on both Evergreen Avenue and Second Street is because the steeply sloped roof in these locations cuts the level of the fifth and fourth story revealing that only .5 of each unit is in the fifth story. (See Exhibit H).

Conclusion

We appreciate this opportunity to respond to the comments we heard in the January 22nd public hearing. We will submit another response to the record after we hear the balance of the testimony.

EXHIBIT A

(2) Any primary structure – For roof forms, or architectural features, such as cupolas or dormers; provided, that these roof forms or features:

(a) Do not extend more than six ft. above the maximum specified base height;

(b) Do not, in total, exceed one-third of the width of the building or buildings as measured on any elevation drawing for an individual roof form or projection or do not exceed one-half of the width of the building for two or more separate roof forms or projections; and

(c) Do not, in total, cover more than 20% of the roof area on which they are located as viewed from directly above for an individual roof form or projection or 30% for multiple roof forms or projections.

(Ord. 2612-A, Amended, 05/21/2013; Ord. 2526, Amended, 12/18/2012; Ord. 2579, Repealed and Replaced, 03/20/2012)

4. COMMERCIAL, MIXED USE, AND INDUSTRIAL ZONES

a. Dimensions

Development in the commercial, mixed use, and industrial zones shall conform to the following dimensional standards except as modified below:

TABLE 50.04.001-14: COMMERCIAL, MIXED USE, AND INDUSTRIAL DIMENSIONS										
Standard [1]	NC	GC	HC	OC	EC	FMU	WLG See 50.04.001.4.b	CR&D	MC	
	<i>If a dimension or requirement is not shown it means there is no minimum or maximum, but requirement may be established at the time of Development Review Commission review.</i>									
FLOOR AREA RATIO										
Maximum	0.25:1 [2]	—	—	0.30:1	3.0:1	4.0:1 [16], [17]			—	1.
Minimum	—	—	—	—	—	1.0:1 [15], [17]			—	.
LOT COVERAGE (%)										
Maximum	100	50	50	25	100	100		55 [5]	100	.
Minimum	None	None	None	None	None	50	None	None	None	Ni
SETBACK (FT.)						[14]				

TABLE 50.04.001-14: COMMERCIAL, MIXED USE, AND INDUSTRIAL DIMENSIONS										
Standard [1]	NC	GC	HC	OC	EC	FMU	WLG See 50.04.001.4.b	CR&D	MC	
Front	—	—	—	—	—			15 [12]	15 [6]	20 ad R z s Li Ar 4 Bui Cr L
Side	—	—	—	—	—			15 [4] [12]	0 [7]	
Rear	—	—	—	—	—			15 [4] [12]	0 [7]	
Location – From Lot Line to:						See 50.06.001.6				
When Adjacent to R-DD, R-5, R-6, R-7.5, R-10 or R-15										
Structure	25	25	25	25	25			—	—	
Surface Parking	10	10	10	10	10			—	—	
Vehicular Accessway	5	5	5	5	5			—	—	
When Adjacent to R-0, R-2 or R-3 Zone										
Structure	10	10	10	10	10			—	—	
Surface Parking	10	10	10	10	10			—	—	
Vehicular Accessway	5	5	5	5	5			—	—	
When Not Adjacent to Residential Zone										
All Setbacks	0	0	0	0	0			—	—	
HEIGHT (FT.)								See 50.04.001.4.c, Additional Standards and Exceptions		
Max. Height	35 [3]	45 [3]	60 [3]	45 [3]	50.04.001.4.c.i	45 [18]; 90		[11]	95 [13]	60
Accessory Structures						24		60		

[1] Standards in this table may be modified by the Lake Grove Village Center Overlay District.
 [2] Except for the SE quadrant of Grimm's Corner, as determined by the Comprehensive Plan (see Figure 50.0 Grimm's Corner Neighborhood Commercial and Appendix E, Commercial Land Use Policies).
 [3] Structures placed closer than 60 ft. to the property line of a lot which carries any residential zone designation maximum height of 28 ft. or 40 ft. minus one ft. for each ft. less than 60 ft. the portion of the structure is from the zone, whichever is greater.

TABLE 50.04.001-14: COMMERCIAL, MIXED USE, AND INDUSTRIAL DIMENSIONS									
Standard [1]	NC	GC	HC	OC	EC	FMU	WLG See 50.04.001.4.b	CR&D	MC
<p>[4] Except along interior lot lines on a unified site.</p> <p>[5] Percent of the net site area after any required dedications for roadway purposes. A minimum of 25% of the : be used for landscaping, natural areas, or outdoor recreational use areas.</p> <p>[6] Structures on corner lots shall observe the minimum setback on both streets.</p> <p>[7] When a side or rear yard abuts a more restrictive zone setbacks shall be 15 ft. Ten ft. shall be added to the yard setback for each ten-ft. increment in building height over 35 ft.</p> <p>[8] Structures placed closer than 60 ft. from the property line of a lot which carries any residential zone designa a maximum height of 40 ft. minus one ft. for each ft. less than 60 ft. the structure is from the residential zone.</p> <p>[9] Zero for common wall development.</p> <p>[10] Front lot lines on corner lots may face either street. The City Manager shall determine the front lot line afte consideration the orientation of structures on the site and nearby lots, the ability to meet setbacks without varia physical site or solar access limitations. Street access should be to local streets.</p> <p>[11] See LOC 50.04.001.4.c.ii.</p> <p>[12] See LOC 50.04.001.4.c.iii.</p> <p>[13] See LOC 50.04.001.4.c.iv.</p> <p>[14] Oswego Pointe Setback. Structures in the FMU zone shall maintain the following minimum setback measu structure listed below (as they existed on January 17, 2013):</p> <p>a. Habitable structures – 85 ft.;</p> <p>b. Nonhabitable structures – ten ft.</p> <p>[15] Applies only to sites abutting a primary street.</p> <p>[16] FMU FAR Transfer. FAR may be transferred from any site zoned FMU to another site zoned FMU as follow</p> <p>a. The total FAR averaged between transfer sites shall not exceed 4.0:1.</p> <p>b. The FAR shall not be less than 1.0:1 on any site abutting a primary street.</p> <p>c. The property owner(s) shall execute and record a covenant with the City on all sites reflecting the res; increase and decrease of the FAR.</p> <p>[17] In the FMU, "Floor Area": (1) Includes the area devoted to structured parking that is above ground level; (2 include areas where the elevation of the floor is four ft. or more below the lowest elevation of an adjacent right-</p> <p>[18] FMU State Street Height. For any area of a site that is located within 100 ft. of the centerline of State Stree height is 45 ft.</p>									

[Cross-References: In EC zone, see also Downtown Redevelopment Design District, LOC 50.05.004; Height Limitation: see also LOC 50.06.001.5.b.]

b. West Lake Grove Zones

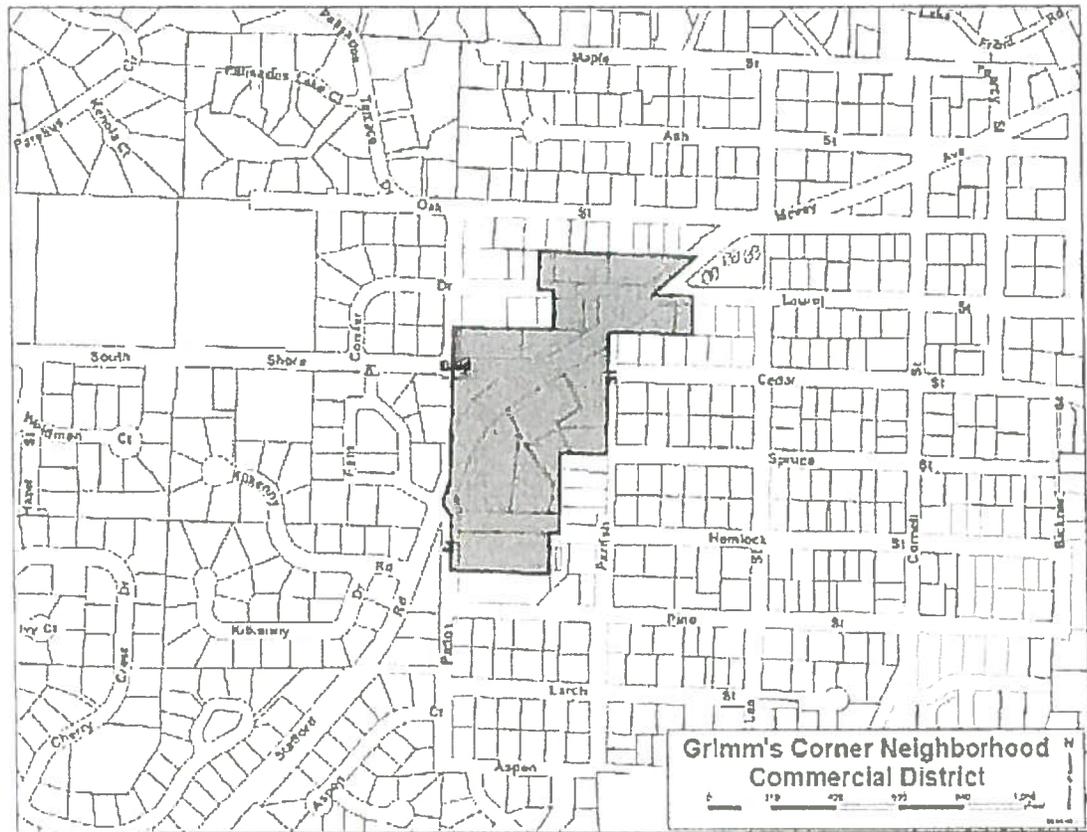
The following dimensions are applicable in the West Lake Grove zone districts.

i. WLG Townhome Residential (WLG R-2.5)

(1) Site Development Limitations

Yard Setbacks. The following exterior wall setbacks shall be required in the WLG R-2.5 zone, except as modified by LOC 50.04.003.1, Additional Dimensional Exceptions.

TABLE 50.04.001-15: WLG R-2.5 YARD SETBACKS		
Structure Type	Yard Type	Setback Distance
Abutting Single-Family Residential Zone		
Primary Use	Front (from property line)	10 ft.
	Rear and Side	25 ft.



c. Additional Standards and Exceptions

i. EC Zone Height Measurement

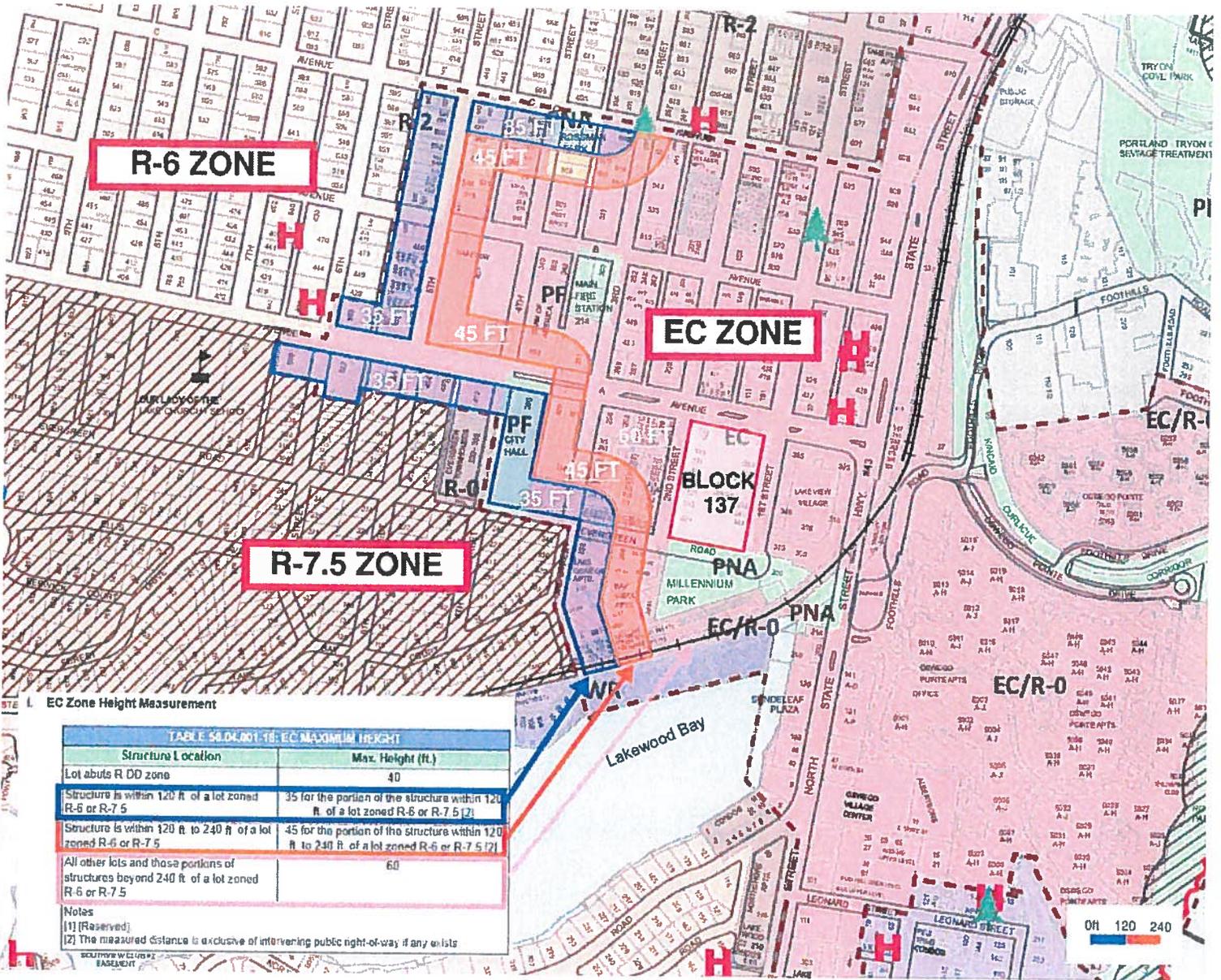
TABLE 50.04.001-18: EC MAXIMUM HEIGHT	
Structure Location	Max. Height (ft.)
Lot abuts R-DD zone	40
Structure is within 120 ft. of a lot zoned R-6 or R-7.5	35 for the portion of the structure within 120 ft. of a lot zoned R-6 or R-7.5 [2]
Structure is within 120 ft. to 240 ft. of a lot zoned R-6 or R-7.5	45 for the portion of the structure within 120 ft. to 240 ft. of a lot zoned R-6 or R-7.5 [2]
All other lots and those portions of structures beyond 240 ft. of a lot zoned R-6 or R-7.5	60
Notes:	
[1] [Reserved].	
[2] The measured distance is exclusive of intervening public right-of-way if any exists.	

ii. CR&D Zone Height Measurement

For each CR&D zone the average height of all structures shall not exceed 78 ft. One structure is allowed a maximum structure height of 158 ft. No other structure shall exceed 104 ft. For the purpose of applying these height

EXHIBIT B

Layered Height Under the Code



R-6 ZONE

EC ZONE

R-7.5 ZONE

BLOCK 137

PNA

EC/R-0

PNA

EC/R-0

I. EC Zone Height Measurement

TABLE 50.04.001-18: EC MAXIMUM HEIGHT	
Structure Location	Max. Height (ft.)
Lot abuts R DD zone	40
Structure is within 120 ft of a lot zoned R-6 or R-7.5	35 for the portion of the structure within 120 ft of a lot zoned R-6 or R-7.5 [2]
Structure is within 120 ft to 240 ft of a lot zoned R-6 or R-7.5	45 for the portion of the structure within 120 ft to 240 ft of a lot zoned R-6 or R-7.5 [2]
All other lots and those portions of structures beyond 240 ft of a lot zoned R-6 or R-7.5	60

Notes

- [1] (Reserved)
- [2] The measured distance is exclusive of intervening public right-of-way if any exists

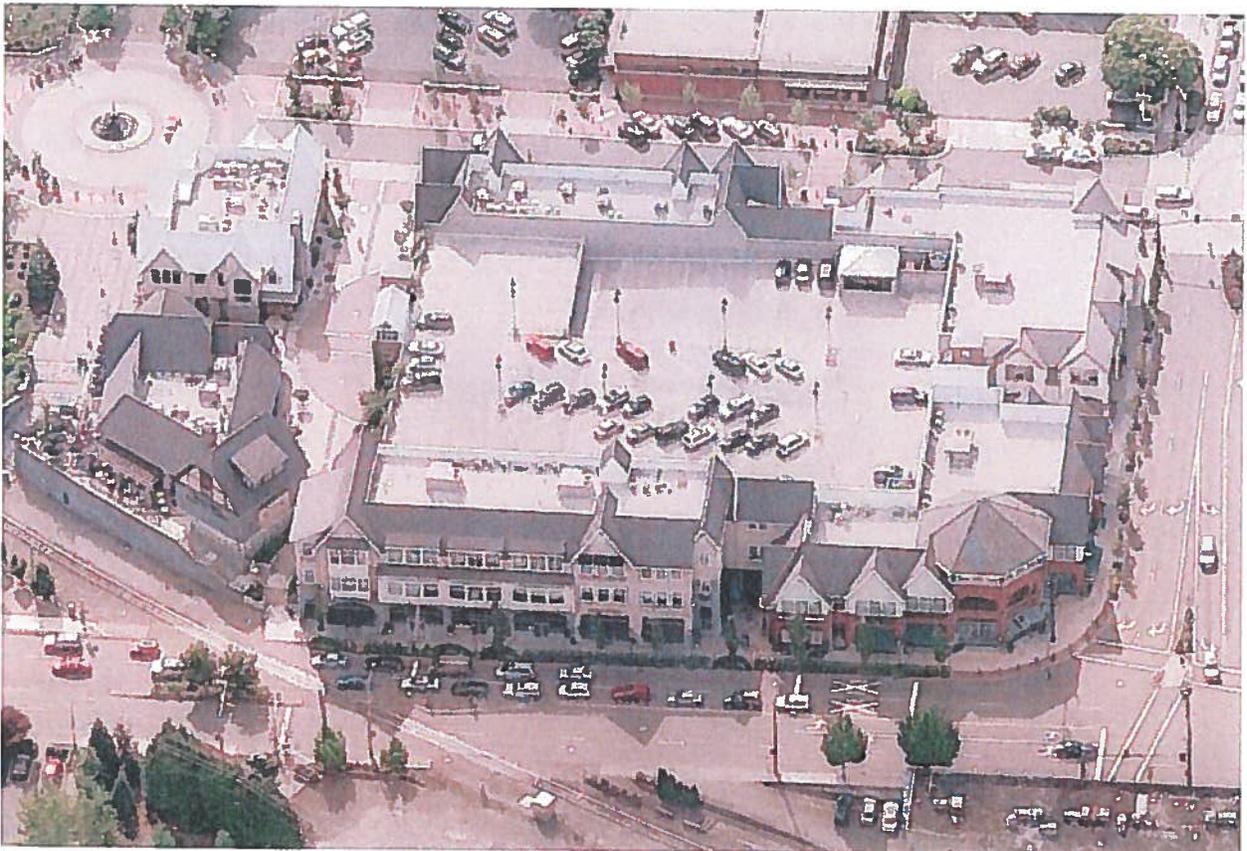
0ft 120 240

EXHIBIT C

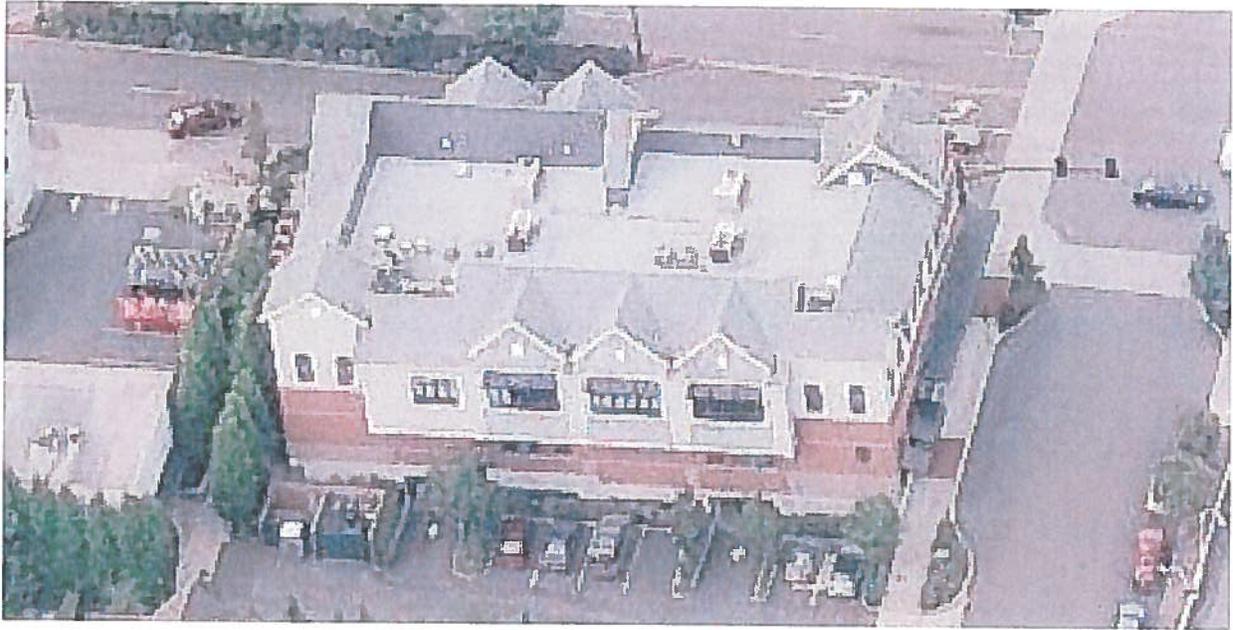
Roof Precedent in Lake Oswego / 555



Roof Precedent in Lake Oswego / Lake View Village



Roof Precedent in Lake Oswego / Block 136



Block 137 Roof Plan

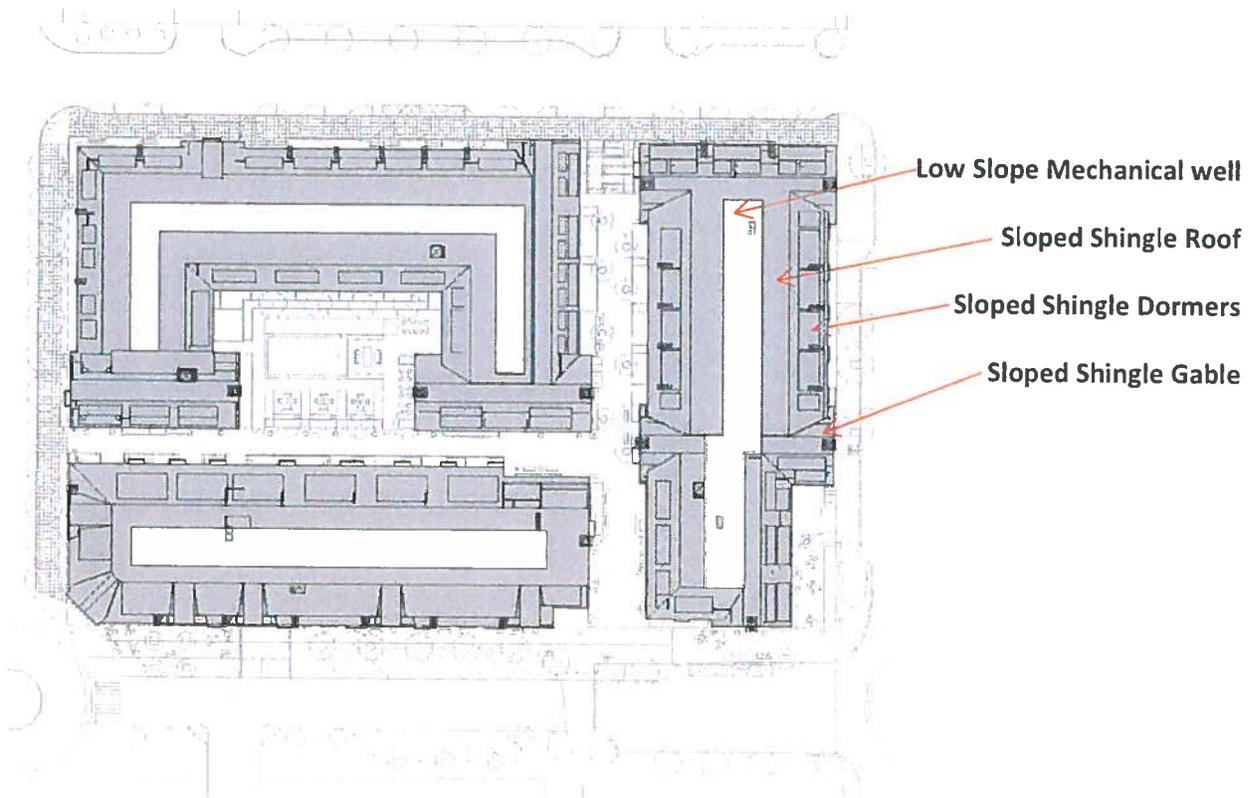


EXHIBIT D

**LAKE OSWEGO URBAN DESIGN PLAN:
A GUIDEBOOK FOR DEVELOPMENT OF THE EAST END**

**EAST END REDEVELOPMENT AREA
CITY OF LAKE OSWEGO, OREGON**

May 23, 1988

**Prepared by
Stastny Architects/Murase Associates
and the
Lake Oswego East End Development Committee**

**Adopted by
the Lake Oswego Redevelopment Agency
on October 4, 1988**

The Urban Design Plan is a guidebook for the orderly redevelopment of Lake Oswego's commercial core. The Urban Design Plan portrays a vision of what could be--how the core of the City of Lake Oswego could appear in the future if the Principles of Urban Form, the Plan Concept and the District Development Guidelines are followed. The Urban Design Plan is a guideline document and, as such, illustrates intent while the City retains the flexibility to respond to specific economic, market and functional circumstances that may arise during the life of the Plan. The primary basis of the Plan is the Vision Statement that was adopted as the preamble to the East End Redevelopment Plan.

VISION STATEMENT

The redevelopment of the East End commercial area of Lake Oswego should meet the needs and desires of the entire city. Redevelopment should create pride in the area, enhance shopping services, utilize the unique physical characteristics of the area, and improve the tax base of the entire city.

Redevelopment should result in a feeling of vitality so that the area becomes an exciting place which will attract people during both the day and the evening. The area should be made colorful by utilizing landscaping and trees. People will be drawn to the area by a combination of uses, including office, residential and retail, which take advantage of the amenities of the area. Transporting people to and from the area, creating pleasant pedestrian facilities, providing adequate parking, and creating activities which will attract people are necessary components to redevelopment.

To prepare and implement a redevelopment plan requires advocacy and commitment from both the public and private sectors. Citizens will need to understand what benefits will be received from spending public funds. The public acquisition of parcels of land may be required in some instances. The Plan should take advantage of natural resources unique to the East End, i.e., visual access to the lake, visual access and use of the river, and visual access to Mt. Hood. The Plan should also identify a key area or areas in which to start.

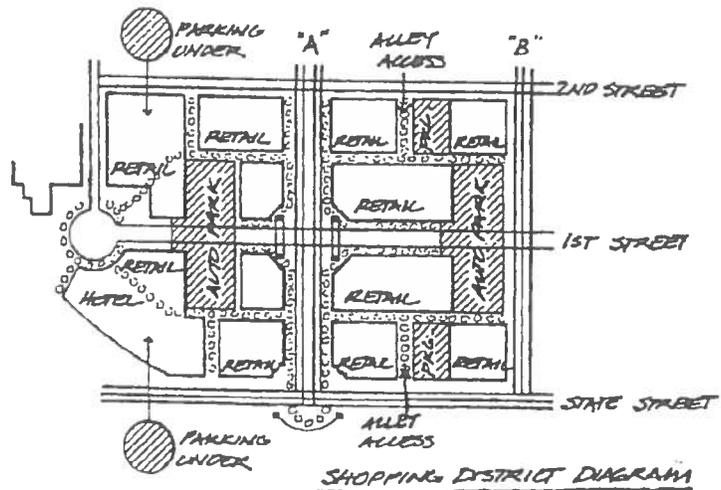
In creating the tools for the realization of this Vision Statement, the Urban Design Plan identifies Plan Objectives, Principles of Urban Form, an overall Plan Concept, and District Development Guidelines. These pieces of the Plan, properly utilized, can provide the environment for the creation of public and private partnerships that will be required to realize the vision of the Lake Oswego citizens.

4.2. Shopping District

Focus: A core of high-density retail activity centered by 1st Street, with pedestrian-oriented alleys and pathways providing other retail access and opportunities.

Form: A desired concentrated development of two-, three- and four-story buildings abutting all streets and avenues. Buildings abutting alleyways should allow for good solar access where possible. Development should abut property lines with parking integrated in public rights-of-way and specified "auto court" areas. Utilize alleys for pedestrian zones and off-hour service vehicle access. Access to alleys at mid-block from State and 2nd. All entrances to alley system to have special indication through signage and lighting.

Organization:



Character: Four block retail area consisting of shops, arcades, civic spaces and circulation network. Pedestrian-oriented lighting, signage and street furniture. Where available, second, third, and fourth levels are a combination of commercial office space and housing. It would be highly desirable to have the southeast "anchor" of the District be a European-type hotel or bed and breakfast facility overlooking Lakewood Bay, the civic square, and Lakefront Center.

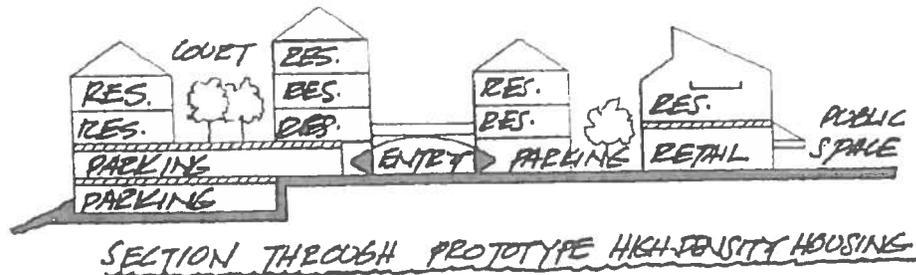
Edges: Street and avenue frontages to be maximum of 50 feet horizontal frontage without recess, change of plane or change of material. Alleys to be maximum 25 feet horizontal frontage without recess, change of plane or change of material. Architectural devices such as awnings, arcades, bay windows, projecting balconies and sloping roofs encouraged.

4.3. Downtown Residential District

Focus: Creation of a safe and inviting atmosphere that will attract a range of housing users. Units should range from elderly to family to single person occupancy. Housing complexes should be designed to be an integral part of, and connect visually and physically to, the retail and cultural facilities of the Shopping District.

Form: Multifamily housing of two- and three-story configuration with a mid-rise component being highly desirable. Parking should be integrated on the site combining surface and structured parking opportunities. Continuous and connecting public pathways should be integrated among building forms. Retail uses should abut street-level civic spaces at the east end of the district.

Organization:



Character: Housing should have a random village scale combining units into assemblages that give a finer scale and texture than commercial buildings. Pedestrian pathways connecting courtyards, auto courts, civic spaces and access to the retail pedestrian system are encouraged. Retail uses included in the complex to serve housing, and should include a restaurant overlooking Lakewood Bay.

Edges: Parking at street level buffered. Civic spaces to have retail abutting at pedestrian level. Interior courtyards and pedestrian systems to have landscaping integrated with residential units.

EXHIBIT E

ORDINANCE NO. 2579

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LAKE OSWEGO REORGANIZING THE COMMUNITY DEVELOPMENT CODE (LOC CHAPTER 50); CONSOLIDATING THE COMMUNITY DEVELOPMENT CODE WITH CODE PROVISIONS RELATING TO SOLAR ACCESS (CHAPTER 57), HISTORIC PRESERVATION (CHAPTER 58) AND FENCES (ARTICLE 45.15); AMENDING THE ZONING MAP AND COMPREHENSIVE PLAN MAP TO REFLECT CHANGED ZONE NAMES; AND ADOPTING FINDINGS LU 11-0036-1776

WHEREAS, the Community Development Code has been amended and expanded numerous times over the years and is complex in terms of content, format, and organization, making it difficult for the user to navigate and understand, and can be improved by reformatting, reorganizing, and making minor text amendments for clarity; and

WHEREAS, the Solar Access and Historic Preservation chapters and the Fence Article are part of the overall development review process by the City, but are contained in separate chapters from the Community Development Code, and incorporating these chapters into the Community Development Code would result in a more consolidated set of development regulations; and

WHEREAS, the reorganization, reformatting, and consolidation of the Community Development Code, Solar Access and Historic Preservation chapters, and the Fence Article are not intended to result in any substantive changes to the existing content of these codes; and

WHEREAS, some zone names are being changed in the text of the Community Development Code, necessitating corresponding changes for zone names on the zoning map and comprehensive plan map; and

WHEREAS, notice of the public hearing for consideration of this Ordinance was duly given in the manner required by law; and

WHEREAS, the Planning Commission has recommended that LU 11-0036-1772 be approved by the City Council; and

WHEREAS, a public hearing on LU 11-0036 was held before the City Council of the City of Lake Oswego on February 21, 2012.

The City of Lake Oswego ordains as follows:

Section 1. The City Council hereby adopts the Findings and Conclusions (LU 11-0036-1776) attached as Exhibit "A".

Section 2. LOC 12.51.035(3) is hereby amended as follows (new text shown in **bold, double-underlined** type; deleted text shown in ~~striketrough~~ type):

12.51.035 Historic Resources Advisory Board.

Zone District Category	Former Map Designation	Revised Designation	Map
Design District (Old Town)	DD	R-DD	
Waterfront Cabanas	WR	R-W	
WLG Live/Work Zone	WLG R-2.5/W	WLG RLW	
WLG Office Commercial / Town Home Residential	WLG OC/R-2.5	WLG RMU	
WLG Town Home Residential	R-2.5	WLG R-2.5	
WLG Office Commercial / Neighborhood Commercial	WLG OC/NC	WLG OC	

Section 24. Revision of Code References. The City Recorder is authorized to revise all references in the Lake Oswego Code to repealed Articles and Sections of Chapters 50 (Community Development Code), Chapters 57 (Solar Access), and 58 (Historic Preservation), and Article 45.15 (Fences) to reference appropriate Sections in the newly adopted Articles and Sections of Chapter 50 (Community Development Code) enacted by this Ordinance.

Section 25. Transition to New Code. All obligations now existing pursuant to LOC Chapters 50, 57, and 58, and Article 54.15, including without limitation:

- a. Fees and charges,
- b. Conditions of approval,
- c. Covenants, conditions, and restrictions, and
- d. Development restrictions,

or otherwise arising as a result of an act, omission or action, or development permit, shall survive the repeal of the Articles of LOC Chapters 50, the repeal of Chapters 57, and 58, and the repeal of Article 54.15, and shall continue under the applicable provisions of the newly adopted Articles of LOC Chapter 50.

Section 26. Code Reorganization Variance. The City Manager may, upon application, grant a Code Reorganization Variance to any substantive provision of Chapter 50 if the applicant demonstrates that a use, setback, exception, adjustment, or other development right is not permitted under the newly adopted Articles of Chapter 50, but would have been permitted under the provisions of Chapters 50, 57, 58, and Article 45.15 repealed by this Ordinance, unless the use, setback, exception, adjustment, or other development right was amended or modified after the effective date of this Ordinance. The procedure for application, notice, hearing, decision, and appeal of the Code Reorganization Variance shall be the same as a Minor Variance, except that no Pre-application Conference shall be required.

Section 27. Sunset Provision; Codification of Code Reorganization Variance.

1. Section 26 shall expire for all applications filed after [three years from the effective date of this Ordinance].

2. The City Recorder may include Section 26 of this Ordinance within the Lake Oswego Code in such section or sections as the City Recorder determines appropriate. If included within the Lake Oswego Code:
- a. The expiration date of Section 26 shall be added to the codified section; and
 - b. The City Recorder shall remove the codification from the Lake Oswego Code upon the expiration date of Section 26.

Section 28. Correction of Errors in Clear and Objective Standards. The City Recorder shall correct errors or omissions to the listing of a use or to a stated numerical standard, and correct punctuation that substantively alters the meaning of a requirement or standard, when necessary to conform to the use, numerical standard, or meaning of a requirement or standard as existed under the provisions of Chapters 50, 57, 58, and Article 45.15 repealed by this Ordinance.

Section 29. Severability. The provisions of this ordinance are severable. If any portion of this ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this ordinance.

Enacted at the regular meeting of the City Council of the City of Lake Oswego held on the 20th day of March 2012.

AYES: Mayor Hoffman, Gudman, Jordan, Kehoe, Moncrieff, Olson, Tierney

NOES: None

ABSTAIN: ~~None~~

EXCUSED: None

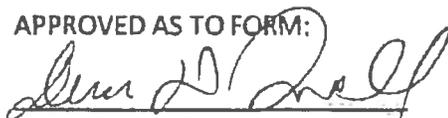


Jack D. Hoffman, Mayor
Dated: 3/20/12

ATTEST:



Catherine Schneider, City Recorder

APPROVED AS TO FORM:


David D. Powell, City Attorney

EXHIBIT F

4th and 5th Story

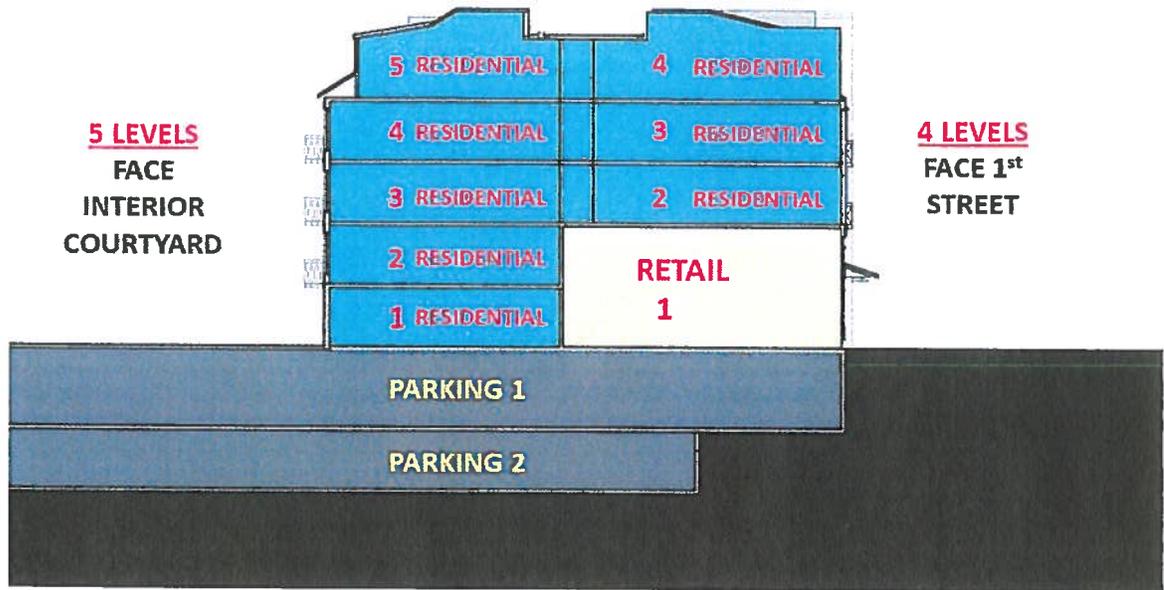


EXHIBIT G

Revised Fourth Story Design – Interior Courtyard

-Fourth and Fifth Floor Setbacks 5 Feet Each



Internal Courtyard Sample Section

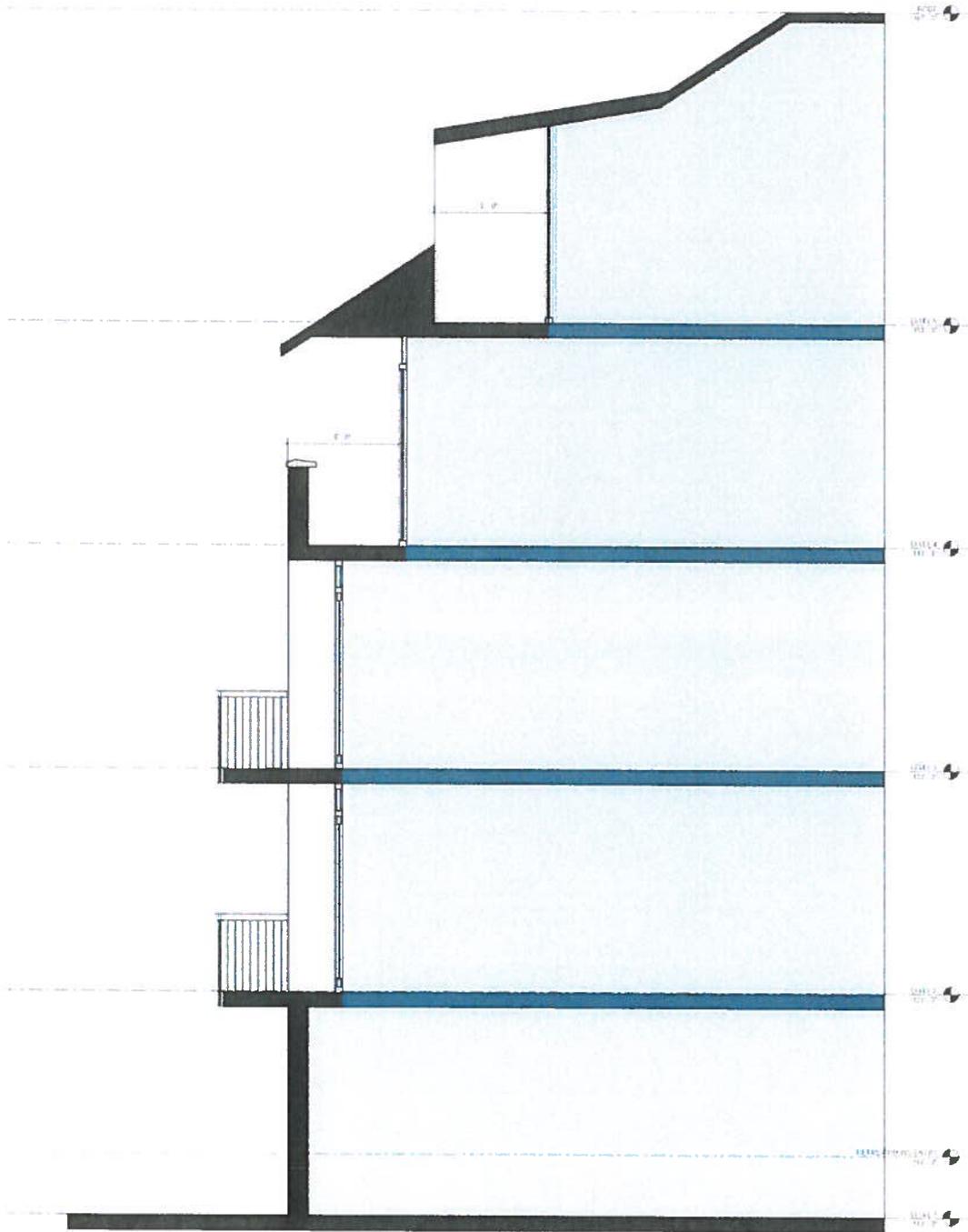


EXHIBIT H

Half Fifth Floor Unit Explanation

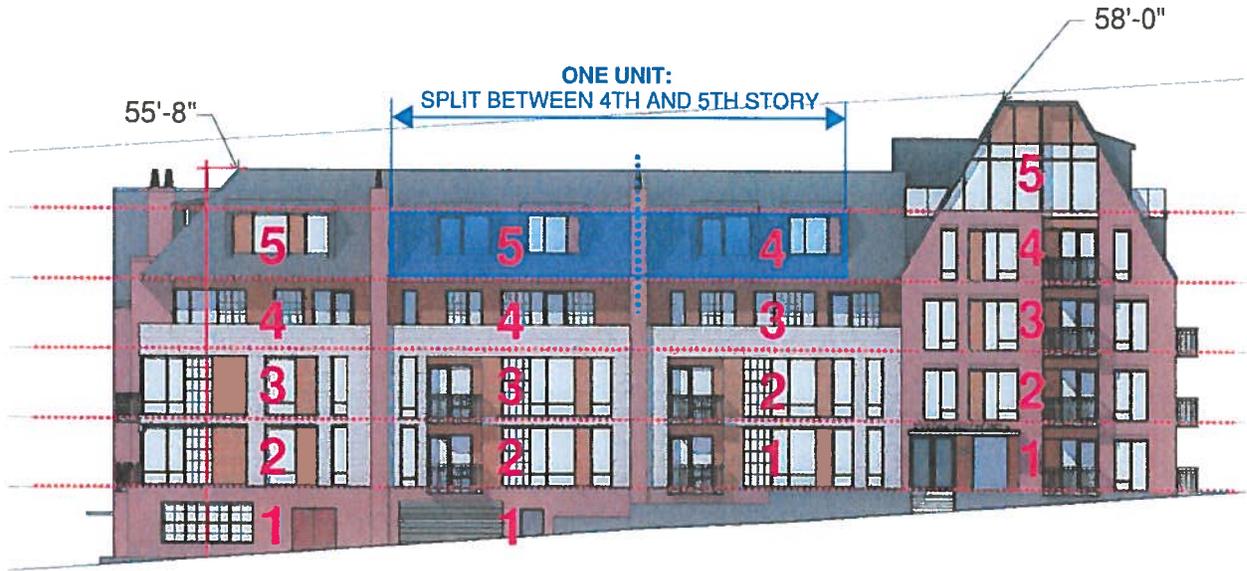


EXHIBIT I

Truncated Gable Precedent (B&W Images out of LO Code)

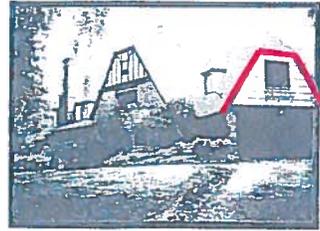
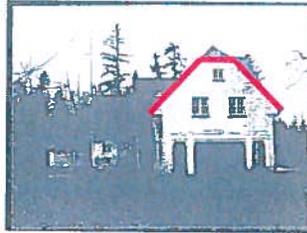
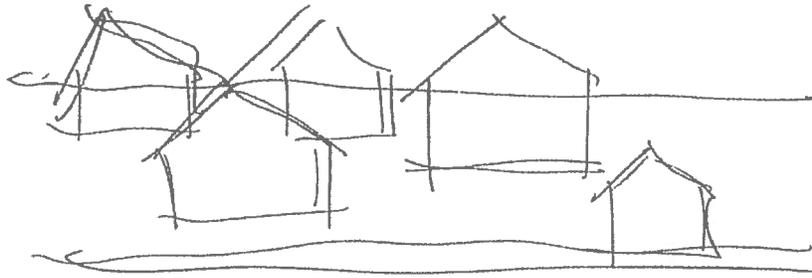
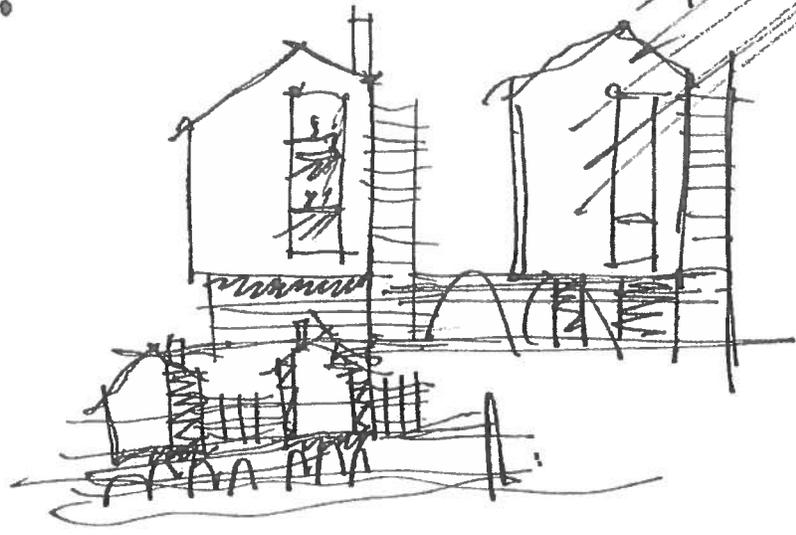
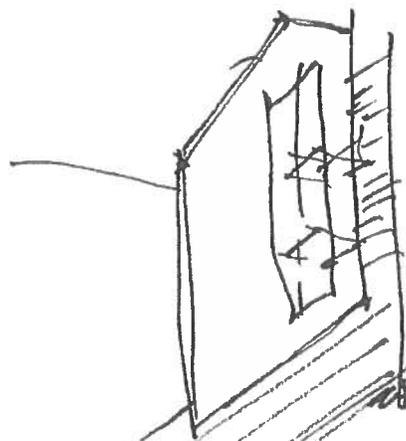


EXHIBIT J

Early Study Sketches



- LO. Landmarks
- functional yet Modern
- messy -
- After Skidels
- 2nd clerk ←
- 2clerk mts
-



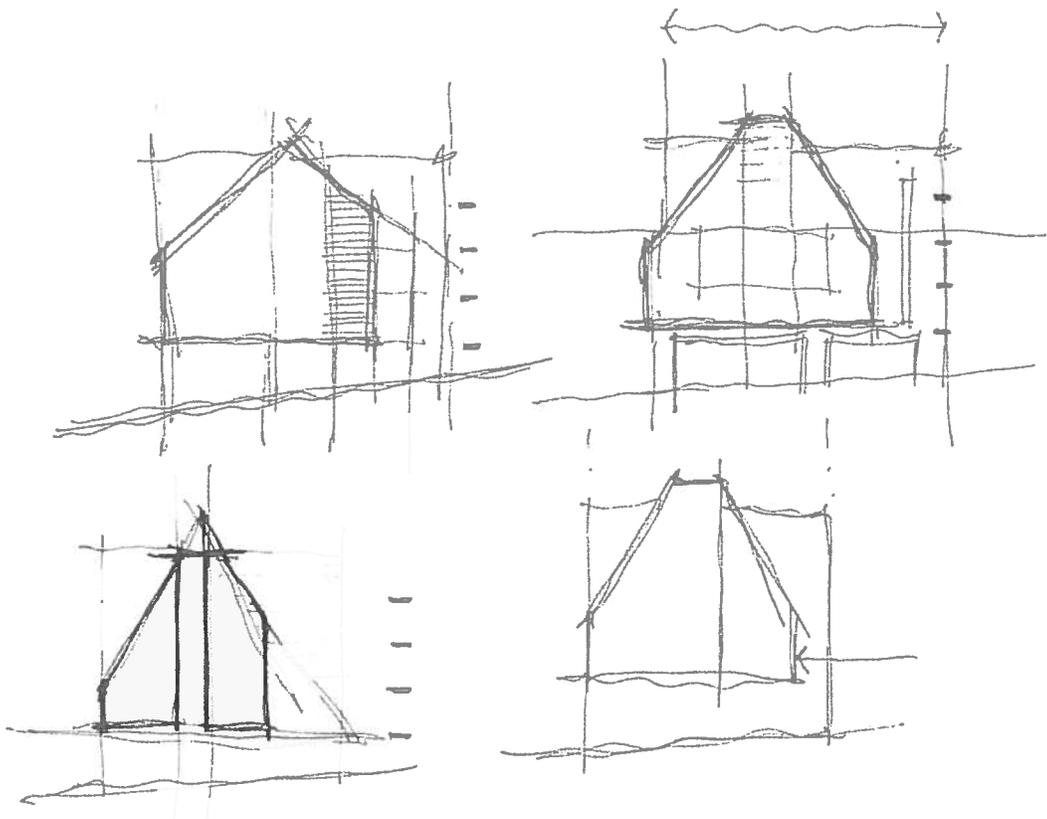


EXHIBIT K



KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

January 28, 2014

Project #: 13588

Development Review Commission (DRC)
c/o Planning and Building Services Department
City of Lake Oswego
P.O. Box 369
Lake Oswego, Oregon 97034

RE: Block 137 Supplemental Transportation Information (LU 13-0046)

Dear Commission Members:

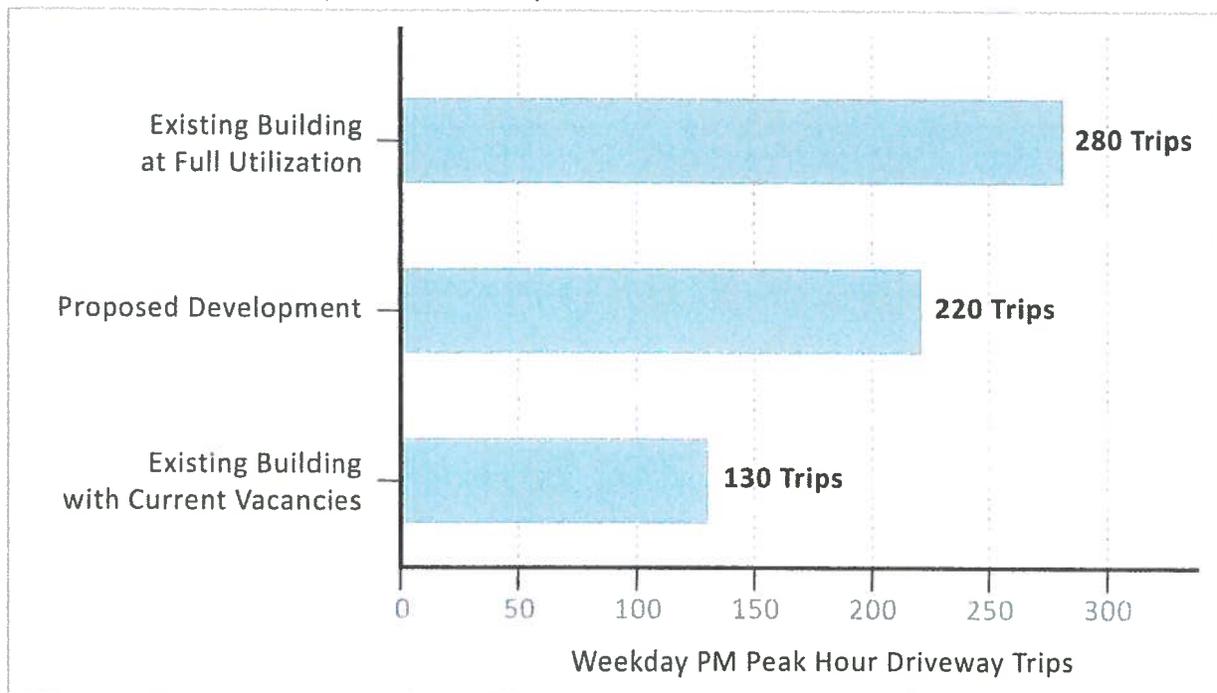
This letter provides transportation-related information supplementing the December 9, 2013 Block 137 Redevelopment Transportation Impact Analysis (herein referred to as the December TIA) and the testimony Kittelson & Associates, Inc. staff provided during the January 22, 2014 DRC hearing for LU 13-0046. This letter is organized by subject area and provides information that DRC members requested as well as responses to transportation related issues discussed through the hearing. Topics addressed in this letter include the following:

- Site Trip Generation
 - Internal trip estimation documentation
 - Pass-by trip implications
- Trip Assignment
 - Documentation of trip assignment
- Off-site Transportation Impacts
 - Number of trips associated with the proposed site development at each study intersection
- Additional Site-generated Trips on Evergreen Road
- DRC Traffic Improvement Suggestions
- Traffic Simulation and Queuing

SITE TRIP GENERATION

As the DRC and community consider the merits of the proposed site re-development and the associated transportation impacts, we believe it is essential that all parties compare the trip generation of the proposed development to potential re-tenanting of the existing retail space on-site. The proposed development will generate *fewer* daily and weekday p.m. peak hour trips than re-occupying the existing retail buildings on the site. Exhibit 1 below provides a comparison of the existing site driveway trip generation, the proposed site driveway trip generation, and the driveway trip generation of the site if the existing site buildings are simply re-occupied (refer to the trip estimates obtained from August 25, 2013 trip comparison memorandum submitted at the January 22, 2014 DRC public hearing and the December 2013 TIA).

Exhibit 1 – Site Driveway Trip Generation Comparison



Re-tenanting of existing retail building space by new retail tenants typically requires no new traffic impact assessment and no mitigation measures so long as the new use(s) generate equivalent or fewer trips compared to the prior use. Regionally speaking, retail space vacated during the Great Recession has resulted in numerous site tenant changes where existing retail space is simply re-occupied or re-occupied with minor building tenant improvements. In many cases, individual shop spaces are move-in ready for the next tenant. In other cases, internal building modifications/updates occur but there is no increase in leasable building area and thus there is no increase in trips. While not proposed at Block 137, by way of example, three former grocery stores in the Portland area have been re-tenanting by Neighborhood Market including sites in West Linn (August 2012, former Bales Marketplace)¹, Lake

¹ Source: <http://oregon.walmartcommunity.com/?s=west+linn+neighborhood+market>

Oswego (October 2012, former Wild Oats store located at 17711 S.W. Jean Way)², and Gresham (January 2013, former QFC)³.

Retail and Residential Trip Generation Characteristics

The trip making characteristics associated with site development will vary between the existing and proposed uses. As shown in Exhibit 1, the proposed site development will generate *fewer* driveway trips than simply re-occupying the existing site retail space. In addition to the number of trips generated, there are demonstrable differences in the time of day and day of week when trips will be generated.

Table 1 below compares the trip generation rates of residential units and retail spaces (specialty retail and quality restaurant). The trip rates shown in Table 1 were obtained from the ITE *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE) in 2012 and reflect driveway trip rates (no reduction made for pass-by, internal, or other trip types).

Table 1 – Comparison of ITE Driveway Trip Rates

Time Period	Apartment (ITE 220)	Specialty Retail (ITE 826)	Quality Restaurant (ITE 931)
Weekday Daily Trips	6.65 trips/unit	44.32 trips/1,000 sq. ft. GLA	89.95 trips/1,000 sq. ft. GFA
Weekday AM Peak Hour Trips (Adjacent Street Peak)	0.51 trips/unit	Not provided by ITE	0.81 trips/1,000 sq. ft. GFA
Weekday PM Peak Hour Trips (Adjacent Street Peak)	0.62 trips/unit	2.71 trips/1,000 sq. ft. GLA	7.49 trips/1,000 sq. ft. GFA
Saturday Daily Trips	6.39 trips/unit	42.04 trips/1,000 sq. ft. GLA	94.36 trips/1,000 sq. ft. GFA

Where: GLA = Gross Leasable Area
 GFA = Gross Floor Area

Noteworthy trends shown in Table 1 include:

- Residential trip rates tend to be lower on weekends as compared to weekdays
- Retail trip rates tend to be as high, or higher during weekends as compared to weekdays

Assuming a residential unit average area of 1,000 square feet, residential development generally generates fewer trips than retail and restaurant space for a given floor area ratio.

December TIA Trip Generation Approach

Page 20 of the December TIA highlights how elements of the TIA methodology sought to provide a reasonable “worst-case” trip estimate. We remain confident that the December TIA provides a reasonable “worst-case” trip assessment for the following reasons:

² Source: <http://oregon.walmartcommunity.com/2012/10/24/lake-oswego-welcomes-walmart-neighborhood-market/>

³ Source: <http://oregon.walmartcommunity.com/?s=gresham>

- The study assumed the residential units will be apartments, though the potential for condominium/townhome units remains pending market conditions.
- No trip reduction was made for the downtown multi-modal environment. As indicated by public testimony at the January 22, 2014 DRC hearing, some residents and retail customers of the existing and proposed site development can be expected to make non-vehicular trips to and from the site (walking, biking, etc.).
- As noted in the TIA, we selected the highest apartment trip rate provided in *Trip Generation, 9th Edition*. ITE Mid-Rise Apartment data (ITE 223) represents rental dwelling units in buildings with three to ten floors (the proposed development falls in this lower range at three to five floors) and could have been cited in the study. This land use rate was not applied to ensure a higher trip generation estimate and thus a more conservative analysis.
- The pass-by trips cited in the December TIA Table 4 trip generation estimate were developed in accordance with *Trip Generation, 9th Edition*; however, no reduction for pass-by trips was made in the intersection operational analysis. Instead, the intersection operations analysis treated the pass-by trips as net new trips at the study intersections.

Other Considerations

One or more DRC members requested additional information regarding the derivation of internal trip estimates and questioned the pass-by trip assumptions presented. The requested information is discussed below.

Internal Trip Estimation Documentation

The internal trip estimates presented in Table 4 of the December TIA were developed in accordance with the standard reference ITE *Trip Generation Manual, 9th Edition*. A copy of the calculation process is attached to this letter in Appendix 1.

Please note that December TIA only accounted for internal trips between the proposed residential units and the on-site retail area. No trip reduction was made for potential walking trips to/from adjacent off-site residential or retail land uses.

Trip Assignment

Appendix 2 of this letter provides documentation of the assumed re-routing of existing trips at the nine existing driveways to the two proposed site driveways. Appendix 2 also provides documentation of the new site-generated trip assignment to the study intersections.

The derivation of the 2016 total traffic volumes shown in Figure 7 of the December TIA can be seen as follows:

2016 Background traffic volumes	(Figure 5)
+ Re-routed existing site trips	(Appendix 2 Figure A-1)
+ <u>New Site-generated trips</u>	<u>(Appendix 2 Figure A-2)</u>
2016 Total Traffic Volumes	(Figure 7)

As previously noted in this letter, the site-generated pass-by trip reductions shown in the December TIA Table 4 were not assumed in the operations analysis. Instead, all site-generated driveway trips were assigned to all of the study intersections as net-new trips for intersection operations analysis purposes. Consequently, the intersection operations analysis results are conservative (analysis assumes 100 percent of the 90 retail site-generated trips above the existing site trips are new to the study intersections).

OFF-SITE TRANSPORTATION IMPACTS

DRC members inquired about the off-site transportation impacts of the proposed site re-development. Figure 1 provides an illustration of the number of new weekday p.m. peak hour site-generated trips (after accounting for existing site trips that are already captured in the traffic counts) at each of the study intersections. The trip assignment in Figure 1 is identical to the assignment used in the December TIA operations analysis (no pass-by trip reduction, etc.). Figure 1 further illustrates the percentage of trips the proposed site development adds relative to 2016 total traffic conditions. As shown in Figure 1, trips to and from the proposed site re-development represent approximately 1.6 percent of the total trips at the C Avenue/Country Club Road/Iron Mountain Road intersection and 1.3 percent of the trips at the N State Street/A Avenue intersection.

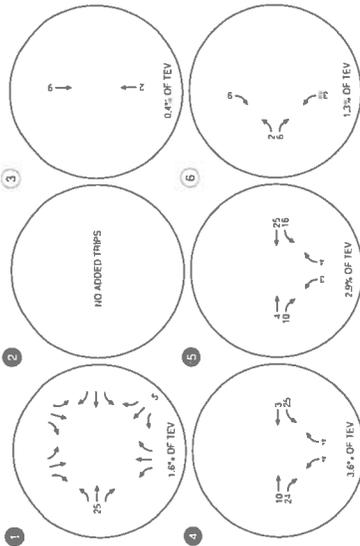
For comparison purposes, Figure 2 illustrates the number of weekday p.m. peak hour site-generated trips that would be added to the study intersections if the currently vacant retail space on site was fully occupied again. Figure 2 also illustrates the percentage of trips re-occupying existing site building space adds relative to 2016 total traffic conditions.

Comparing Figures 1 and 2, ***the proposed site re-development results in fewer trips added to the study intersections than simply re-occupying the existing vacant site building space.*** Given that the proposed redevelopment will use less off-site intersection capacity than the existing development, there is no nexus for requiring off-site capacity improvements under Lake Oswego Code.



STUDY INTERSECTIONS

1. C Ave / Country Club Rd / Iron Mountain Blvd
2. B Ave / 1st St
3. B Ave / State St
4. A Ave / 2nd St
5. A Ave / 1st St
6. A Ave / State St



TEV - Total Entering Volume
 (●) - Lake Oswego Local Intersection
 (⊙) - ODOT Facility Intersection

Incremental Increase in Site-Generated Trips at Off-site Intersections
 Weekday PM Peak Hour
 Lake Oswego, Oregon



STUDY INTERSECTIONS

1. C Ave / Country Club Rd / Iron Mountain Blvd
2. B Ave / 1st St
3. B Ave / State St
4. A Ave / 2nd St
5. A Ave / 1st St
6. A Ave / State St

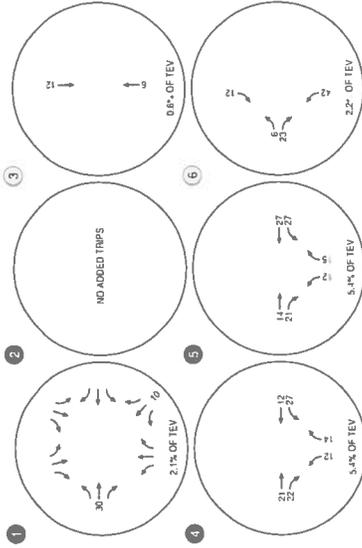


FIGURE 2

Existing Building Re-occupancy Incremental Increase in Site-Generated Trips at Off-site Intersections
Weekday PM Peak Hour
Lake Oswego, Oregon

TEV - Total Entering Volume
 - Lake Oswego Local Intersection
 - ODOT Facility Intersection

ADDITIONAL TRIPS ON EVERGREEN ROAD

Testimony by neighborhood representatives during the January 22, 2014 DRC public hearing cited issues with the number of site-generated trips that could be added to Evergreen Road. In particular, the issue of cut-through traffic along Evergreen Road was noted given queuing and delays along “A” Avenue.

The discussion on page 29 of the December TIA documents that the increase in site-generated trips using Evergreen Road is anticipated to be on the order of 12 trips eastbound on Evergreen Road and 2 trips westbound during the weekday p.m. peak hour. Figure 6 of the December TIA illustrates the anticipated travel routes and alternative options. The number of cut-through trips is likely to be higher if the existing vacant retail space on the proposed development site were re-occupied.

Vehicles leaving the site westbound on Evergreen Road are currently required to turn left- or-right at 4th Street as noted on page 29 of the Development TIA. The 4th Street/Evergreen Road intersection configuration effectively precludes traffic cutting through Evergreen Road further west. Further, a condition of approval recommended to the DRC by City staff involves implementation of all-way stop control at the Evergreen Road/2nd Street intersection; a change that should further discourage cut-through trips to the site.

To further assess the potential for site-generated cut-through trips along Evergreen Road, we compared the 2013 weekday p.m. peak hour traffic counts conducted on Evergreen Road as part of the December TIA with traffic counts conducted in 2000 for the Lake View Village development (herein referred to as the 2000 LVV TIA)⁴. The 2000 LVV TIA forecast the change in weekday p.m. peak hour traffic conditions after Blocks 136 and 138 redevelop and Block 137 added 17,800 square feet of supermarket and 4,800 of shopping center space (the Block 137 assumption was made anticipating potential future redevelopment).

The December TIA includes p.m. peak hour traffic volumes as of June 2013 and forecasts conditions in 2016 after Block 137 fully redevelops as proposed. Table 2 summarizes information from the two traffic studies for Evergreen Road.

Table 2. Comparison of Evergreen Road Weekday PM Peak Hour Traffic Volume Projections

	Year 2000 LVV TIA for Blocks 136 and 138		December Block 137 TIA	
	1999 Field Count	Forecast Year 2017 Volume*	2013 Field Count	Forecast 2016 Volume
Eastbound Evergreen Road	48 vehicles	90 vehicles	30 vehicles	42 vehicles
Westbound Evergreen Road	25 vehicles	53 vehicles	30 vehicles	32 vehicles
Total	73 vehicles	143 vehicles	60 vehicles	74 vehicles

*The 2000 LVV TIA project did not reflect the semi-diverter since installed on Evergreen Road west of 4th Street.

⁴ Source: Lake Oswego Downtown Redevelopment Blocks 136 and 138 Transportation Impact Analysis prepared by DKS Associates dated March 31, 2000.

As indicated in Table 2, eastbound p.m. peak hour traffic volumes recorded on Evergreen Road have declined slightly since 1999, despite completion of Block 136 and 138 redevelopment. Westbound traffic volumes have increased slightly (five vehicles per hour but nowhere near as much as forecasted). The semi-diverter added on Evergreen Road west of 4th Street since the 1999 traffic count was conducted appears to have successfully influenced potential westbound cut-through traffic.

We expect the convenient access that the proposed Block 137 development will have to “A” Avenue at both 2nd Street and 1st Street will continue to result in the vast majority of site generated trips using “A” Avenue to reach the site.

Evergreen Road Site Driveway Concept

A question was asked during the January 22, 2014 DRC public hearing about the implications of locating the proposed retail site driveway on Evergreen Road in lieu of the proposed 1st Street location. Clearly, relocating the retail site driveway to Evergreen Road would result in all site-generated vehicular retail trips using Evergreen Road at least for the block between 1st Street and 2nd Street. We further expect that locating the proposed site’s retail driveway on the Evergreen Road site frontage would result in additional vehicular trips along 2nd Street (relative to the proposed 1st Street driveway location).

In our professional opinion, locating the retail site driveway on 1st Street as proposed by the Applicant is superior to any potential site driveway location along the Evergreen Road frontage. The proposed 1st Street driveway offers convenient access to the 1st Street signalized intersection with “A” Avenue and minimizes potential out-of-direction travel and cut-through trips along Evergreen Road. The December TIA demonstrates there is sufficient capacity at the site driveway and at the “A” Avenue/1st Street signalized intersection.

DRC TRAFFIC IMPROVEMENT SUGGESTIONS

One of the DRC members suggested the Applicant consider adding curb extensions to the proposed site driveway on 2nd Street. The Applicant team appreciates the suggestion and, subject to meeting City storm water drainage design requirements, will incorporate curb extensions into the 2nd Street driveway design.

TRAFFIC SIMULATION AND QUEUING

In response to DRC member comments at the January 22, 2014 hearing, we prepared additional queuing analyses for the signalized intersections of 2nd Street, 1st Street, and N Main Street along “A” Avenue using SimTraffic micro-simulation analysis (five simulation runs were prepared in accordance with ODOT *Analysis Procedure Manual* guidance). Table 3 illustrates the projected 95th percentile queues at the three signalized study intersections for three scenarios:

- 2016 background traffic p.m. peak hour conditions;
- 2016 total traffic p.m. peak hour conditions with the proposed site development; and
- 2016 total traffic p.m. peak hour conditions with the existing site retail space fully occupied.

As shown in Table 3, the proposed site development results in a small incremental increase in queuing at the “A” Avenue/N State Street intersection (the corresponding traffic volume increase is also shown by movement). By comparison, simply re-occupying existing vacant retail building space would result in longer queues. Given the small incremental impact of the proposed development and recognizing that fully occupying the existing site buildings would have a larger impact, we find no basis for requiring mitigation at the signalized intersections in conjunction with site development. Appendix 3 includes the SimTraffic queuing report. In addition, Appendix 3 also contains the 2016 Total Traffic Synchro worksheets supporting the December 2013 TIA (these worksheets supersede the December 2013 TIA Appendix F material that was incorrectly reproduced).

Table 3. Sim Traffic Queuing Summary¹, Weekday PM Peak Hour – Block 137 Development

Intersection	Movement	2016 Background (feet)	2016 With Proposed Site Traffic (feet)	Vehicle Volume Added by Site	2016 With Re-occupancy of Existing Vacant Commercial Space (feet)	Vehicle Volume Added by Site	Available Storage (feet)
State Street / A Avenue	Eastbound Left	275	274	2	274	6	225
	Eastbound Right (Lane 1)	288	304	3	318	11	250 ²
	Eastbound Right (Lane 2)	300	314	3	324	12	250 ²
	Northbound Left	216	224	32	224	42	220
	Northbound Left-Through	352	389	0	418	0	Continuous
	Northbound Through	209	247	0	278	0	Continuous
	Southbound Through	432	436	0	416	0	Continuous
	Southbound Through-Right	432	421	9	421	12	Continuous
	Eastbound Left	58	71	0	50	0	75
	Eastbound Through	289	296	2	291	14	260 ²
1 st Street / A Avenue	Eastbound Through-Right	307	302	12	296	21	260 ²
	Westbound Left	108	103	16	124	27	125
	Westbound Through	147	156	25	159	27	250
	Westbound Through-Right	162	168	0	168	0	250
	Northbound Left-Through	186	186	3	208	12	Continuous
	Northbound Right	100	100	4	100	15	100
	Southbound Left-Through	226	178	0	201	0	Continuous
	Southbound Right	50	50	0	50	0	50
	Eastbound Left	65	78	0	68	0	75
	Eastbound Through	299	302	2	306	2	260 ²
2 nd Street / A Avenue	Eastbound Through-Right	306	319	32	309	41	260 ²
	Westbound Left	42	67	25	90	27	100
	Westbound Through	152	151	3	164	12	260
	Westbound Through-Right	188	168	0	186	0	260
	Northbound Left/Through/Right	130	104	8	194	26	Continuous
	Southbound Left/Through/Right	151	106	0	143	0	Continuous

¹ Where 95th percentile queues exceed maximum queues (Sim Traffic limitation), the maximum queues are shown

² Indicates the length of the block face and queue may spill back through upstream intersection

Signal Coordination Along “A” Avenue

The existing traffic signals along “A” Avenue currently operate independently. The City-maintained “A” Avenue traffic signal at 1st Street could be synchronized with the Oregon Department of Transportation (ODOT)-maintained “A” Avenue/N State Street intersection through implementation of traffic signal interconnect. During the January 22, 2014 DRC hearing, City staff testified that City and ODOT staff are exploring implementation of a traffic signal coordination project but that the project is not yet funded.

Traffic signal coordination would allow for more fluid movement of traffic flow between signals and could be used as a tool to better manage queuing along “A” Avenue. For example, the traffic signal at 1st Street/“A” Avenue could potentially be coordinated to better progress northbound left-turns from N State Street westbound (today many of the northbound left-turns at N State Street/“A” Avenue are stopped at the 1st Street signal westbound by a red light).

While the traffic signal coordination project is not currently designed, at a planning level, such a project would typically require the following elements:

- Upgrading the City-maintained “A” Avenue/1st Street traffic signal controller to a model 2070 controller that is compatible with ODOT’s controller equipment
- Installation of interconnect communications between the 1st Street traffic signal controller and ODOT’s traffic signal controller. The interconnect could be in the form of wireless communications equipment (essentially a radio and related gear at the ODOT signal and matching equipment at the City signal) or a wired communication line (typically a wire routed through underground conduit between the two intersection traffic signal controller cabinets);
- Development and implementation of coordinated traffic signal timing plans.

A preliminary order-of-magnitude cost estimate for the traffic signal coordination project is \$35,700 (includes \$3,700 for a new traffic signal controller and accompanying software⁵, \$5,000 for two wireless interconnect radios and associated gear, and \$27,000 for design, contractor labor and installation, as well as updated signal timing plan development).

SUMMARY

This letter provides supplemental transportation information and documentation to inform the City’s review process. Key findings include:

⁵ Installing 2070 Controller Hardware is estimated to cost \$2,000. The amount could be lower if the local agency has an agreed-upon lower rate with vendors and purchases for the project. Installing NWS Voyage Controller Software will add approximately \$1,700 to the project cost. The software could be significantly lower if ODOT purchases the license due to their vendor pricing agreements.

- The proposed development generates fewer weekday p.m. peak hour trips that would be generated if the existing retail buildings on the site were fully occupied again.
- The December 2013 TIA provides a reasonably conservative “worst-case” trip generation estimate.
- The intersection operations analysis presented in the December 2013 TIA does not include any pass-by trips; instead, the site-generated pass-by trips shown in Table 4 of the TIA were conservatively analyzed as being net new to the study intersections.
- The site-generated trip impact to Evergreen Road will be small as substantiated through review of historic traffic trends along Evergreen Road east of 4th Street.
- The Applicant appreciates the suggestion made by a DRC member to add curb extensions to the 2nd Street driveway and plans to do so (subject to feasibility related to storm water drainage).
- Signalized intersection simulation analyses were prepared and demonstrate that 1) the site-generated trips have a small incremental queuing impact and 2) simply re-occupying the existing site retail space would have a larger queuing impact.

We appreciate the questions and comments provided by DRC members and the community at the January 22, 2014 hearing and look forward to continued dialogue regarding the transportation impacts of the proposed development.

Sincerely,
KITTELSON & ASSOCIATES, INC.



Chris Brehmer, P.E.
Principal Engineer



Mike Coleman, P.E.
Associate Engineer

APPENDICES

- Appendix 1 – Internal Trip Estimates
- Appendix 2 – Trip Assignment Documentation
- Appendix 3 – Synchro and SimTraffic Output

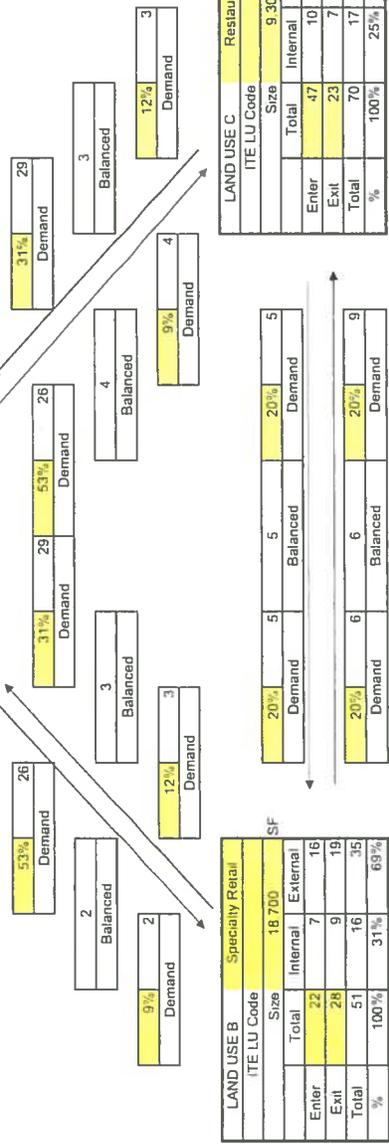


Appendix 1 Internal Trip Estimates

LAND USE A Apartment			
ITE LU Code	Size	Internal	External
	228		
Total	92	6	86
Enter	49	6	43
Exit	43	0	43
Total	141	12	129
%	100%	9%	91%

Exit to External
43

Enter from External
86



LAND USE B Specialty Retail			
ITE LU Code	Size	Internal	External
	18 700		
Total	22	7	16
Enter	28	9	19
Exit	51	16	35
Total	51	16	35
%	100%	31%	69%

Exit to External
19

Enter from External
16

LAND USE C Restaurants			
ITE LU Code	Size	Internal	External
	9 300		
Total	47	10	37
Enter	23	7	16
Exit	70	17	52
Total	70	17	52
%	100%	25%	75%

Enter to External
37

Exit from External
16

NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT				
	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	86	16	37	138
Exit	43	19	16	78
Total	129	35	52	216
Single-Use Trip Gen Est.	141	51	70	262
				INTERNAL CAPTURE
				17%

Appendix 2 Trip Assignment
Documentation

STUDY INTERSECTIONS

1. C Ave / Country Club Rd / Iron Mountain Blvd
2. B Ave / 1st St
3. B Ave / State St
4. A Ave / 2nd St
5. A Ave / 1st St
6. A Ave / State St
7. Evergreen Rd / 2nd St
8. 1st St / Driveways

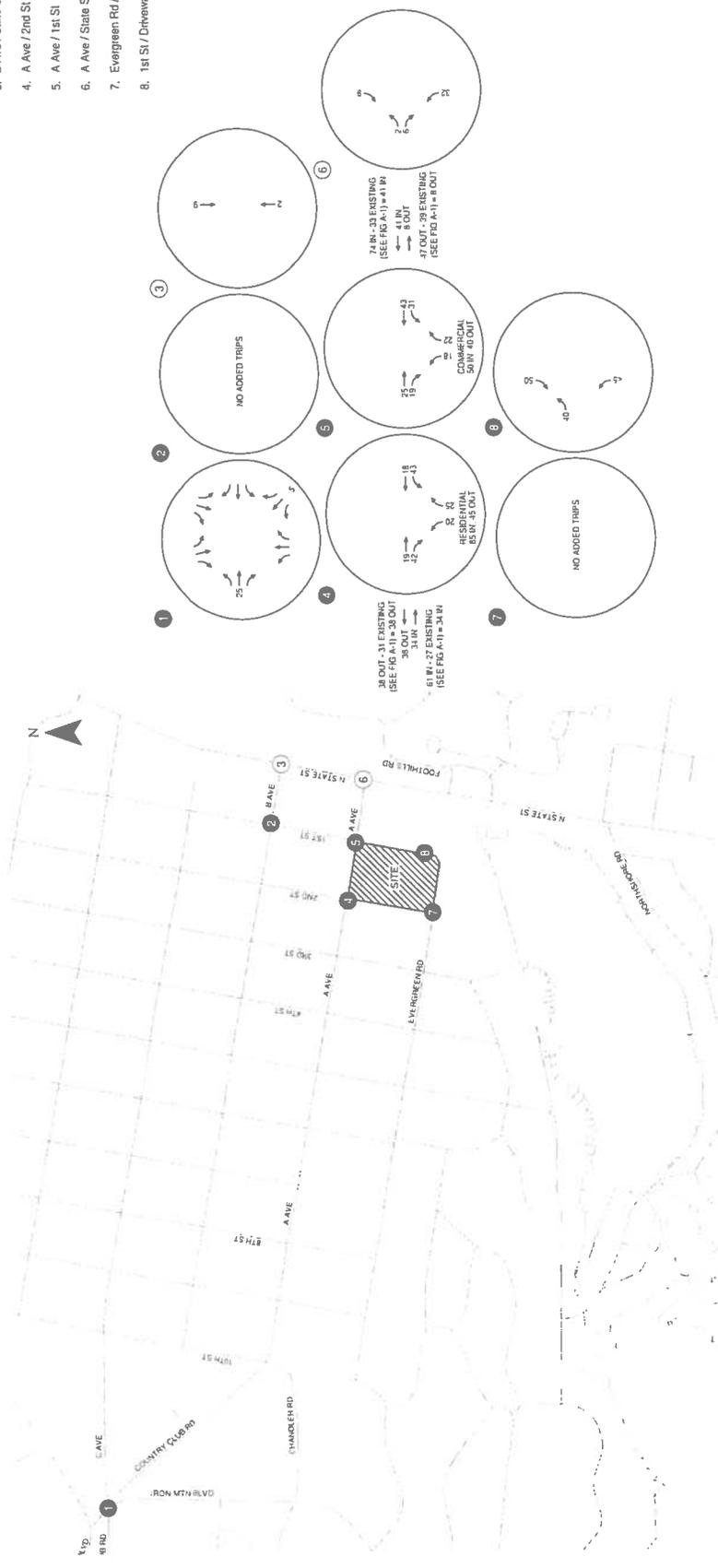


FIGURE A-2
Site-Generated Trip Assignment
Weekday PM Peak Hour
Lake Oswego, Oregon

 - Lake Oswego Local Intersection
 - ODOT Facility Intersection

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING AND ENGINEERING

Appendix 3 Synchro and SimTraffic Output

Queuing and Blocking Report
Weekday PM Peak Hour

1/27/2014

Intersection: 4: SW A Ave & 2nd St

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	99	289	306	61	205	242	143	176
Average Queue (ft)	17	240	240	12	60	81	65	73
95th Queue (ft)	65	363	367	42	152	188	130	151
Link Distance (ft)		264	264		262	262	258	367
Upstream Blk Time (%)		43	41		0	0		
Queuing Penalty (veh)		241	225		0	1		
Storage Bay Dist (ft)	75			100				
Storage Blk Time (%)	0	54		0	2			
Queuing Penalty (veh)	0	16		0	0			

Intersection: 5: SW A Ave & 1st St

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LT	R
Maximum Queue (ft)	84	289	307	140	204	207	234	100	266	50
Average Queue (ft)	18	265	265	57	57	79	80	83	97	30
95th Queue (ft)	38	306	308	108	147	162	186	112	226	64
Link Distance (ft)		262	262		257	257	254		374	
Upstream Blk Time (%)		41	38		0	0	1		1	
Queuing Penalty (veh)		227	210		0	0	2		1	
Storage Bay Dist (ft)	75			125				75		25
Storage Blk Time (%)	0	55		1	1		9	12	53	5
Queuing Penalty (veh)	1	9		2	1		8	10	22	4

Intersection: 6: SW A Ave & N State St

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	R	L	LT	T	T	TR
Maximum Queue (ft)	275	288	300	216	414	274	432	432
Average Queue (ft)	230	242	229	184	182	80	358	372
95th Queue (ft)	305	325	337	241	352	209	496	489
Link Distance (ft)	257	257	257		578	578	379	379
Upstream Blk Time (%)	22	10	19		0		16	18
Queuing Penalty (veh)	86	38	74		0		113	130
Storage Bay Dist (ft)				200				
Storage Blk Time (%)				4	9			
Queuing Penalty (veh)				22	21			

Zone Summary

Zone wide Queuing Penalty: 1464

Queuing and Blocking Report
Weekday PM Peak Hour

1/27/2014

Intersection: 4: SW A Ave & 2nd St

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	99	302	319	96	214	225	147	136
Average Queue (ft)	24	261	264	26	60	78	49	50
95th Queue (ft)	78	341	344	67	151	168	104	106
Link Distance (ft)		264	264		262	262	258	367
Upstream Blk Time (%)		46	45		0	0		
Queuing Penalty (veh)		263	255		0	0		
Storage Bay Dist (ft)	75			100				
Storage Blk Time (%)	0	61		0	2			
Queuing Penalty (veh)	1	18		0	1			

Intersection: 5: SW A Ave & 1st St

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LT	R
Maximum Queue (ft)	99	296	302	133	222	229	226	100	208	50
Average Queue (ft)	23	268	268	52	63	83	79	65	85	29
95th Queue (ft)	71	305	303	103	156	168	186	115	178	63
Link Distance (ft)		262	262		257	257	254		374	
Upstream Blk Time (%)		39	36		0	0	2		0	
Queuing Penalty (veh)		220	198		0	0	4		0	
Storage Bay Dist (ft)	75			125				75		25
Storage Blk Time (%)	1	56		1	1		9	15	52	4
Queuing Penalty (veh)	3	9		2	1		9	12	21	3

Intersection: 6: SW A Ave & N State St

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	R	L	LT	T	T	TR
Maximum Queue (ft)	274	304	314	224	459	347	436	421
Average Queue (ft)	235	223	234	135	195	92	351	356
95th Queue (ft)	304	321	331	237	389	247	517	521
Link Distance (ft)	257	257	257		578	578	379	379
Upstream Blk Time (%)	21	13	19		0		12	15
Queuing Penalty (veh)	82	51	74		1		89	111
Storage Bay Dist (ft)				200				
Storage Blk Time (%)				5	10			
Queuing Penalty (veh)				27	25			

Zone Summary

Zone wide Queuing Penalty: 1482

Queuing and Blocking Report
Weekday PM Peak Hour

1/27/2014

Intersection: 4: SW A Ave & 2nd St

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LTR
Maximum Queue (ft)	92	306	309	117	196	211	215	170
Average Queue (ft)	17	271	271	35	64	85	103	64
95th Queue (ft)	68	318	336	90	164	186	194	143
Link Distance (ft)		264	264		262	262	258	367
Upstream Blk Time (%)		52	51		0	0	0	
Queuing Penalty (veh)		297	291		0	0	0	
Storage Bay Dist (ft)	75			100				
Storage Blk Time (%)	0	66		1	4			
Queuing Penalty (veh)	0	19		3	2			

Intersection: 5: SW A Ave & 1st St

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LT	R
Maximum Queue (ft)	67	304	306	144	193	196	245	100	234	50
Average Queue (ft)	16	273	275	64	61	75	95	70	86	29
95th Queue (ft)	50	291	296	124	159	168	208	117	201	63
Link Distance (ft)		262	262		257	257	254		374	
Upstream Blk Time (%)		49	46		0		1		1	
Queuing Penalty (veh)		280	260		0		2		1	
Storage Bay Dist (ft)	75			125				75		25
Storage Blk Time (%)	0	61		1	2		11	18	49	5
Queuing Penalty (veh)	1	10		3	2		11	17	20	3

Intersection: 6: SW A Ave & N State St

Movement	EB	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	R	L	LT	T	T	TR
Maximum Queue (ft)	274	318	324	224	485	428	416	421
Average Queue (ft)	235	217	232	138	200	99	356	365
95th Queue (ft)	309	333	336	239	418	278	496	496
Link Distance (ft)	257	257	257		578	578	379	379
Upstream Blk Time (%)	23	16	23		1	0	16	18
Queuing Penalty (veh)	92	63	90		4	2	115	129
Storage Bay Dist (ft)				200				
Storage Blk Time (%)				6	11			
Queuing Penalty (veh)				36	28			

Zone Summary

Zone wide Queuing Penalty: 1782

HCM Unsignalized Intersection Capacity Analysis

2: SW B Ave & 1st St

12/4/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	310	45	40	265	10	20	5	35	15	10	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	10	320	46	41	273	10	21	5	36	15	10	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									3			1
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)					341							
pX, platoon unblocked												
vC, conflicting volume	284			366			735	729	343	745	747	278
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	284			366			735	729	343	745	747	278
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			93	98	95	95	97	99
cM capacity (veh/h)	1290			1204			315	337	704	302	329	765
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	376	325	62	36								
Volume Left	10	41	21	15								
Volume Right	46	10	36	10								
cSH	1290	1204	767	438								
Volume to Capacity	0.01	0.03	0.08	0.08								
Queue Length 95th (ft)	1	3	7	7								
Control Delay (s)	0.3	1.3	13.2	15.3								
Lane LOS	A	A	B	C								
Approach Delay (s)	0.3	1.3	13.2	15.3								
Approach LOS			B	C								
Intersection Summary												
Average Delay			2.4									
Intersection Capacity Utilization			48.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

3: SW B Ave & N State St

12/4/2013



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↓	
Volume (vph)	255	140	140	800	1307	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	3610	3544	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1805	1615	157	3610	3544	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	263	144	144	825	1347	186
RTOR Reduction (vph)	0	118	0	0	8	0
Lane Group Flow (vph)	263	26	144	825	1525	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type		Perm	pm+pt			
Protected Phases	8		1	6	2	
Permitted Phases		8	6			
Actuated Green, G (s)	17.2	17.2	69.8	69.8	57.4	
Effective Green, g (s)	17.2	17.2	69.8	69.8	57.4	
Actuated g/C Ratio	0.18	0.18	0.73	0.73	0.60	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	2.3	2.3	5.8	5.8	
Lane Grp Cap (vph)	323	289	250	2625	2119	
v/s Ratio Prot	c0.15		c0.05	0.23	c0.43	
v/s Ratio Perm		0.02	0.37			
v/c Ratio	0.81	0.09	0.58	0.31	0.72	
Uniform Delay, d1	37.9	32.9	13.2	4.6	13.6	
Progression Factor	1.00	1.00	1.22	1.08	1.00	
Incremental Delay, d2	14.0	0.1	1.9	0.3	2.1	
Delay (s)	51.9	32.9	18.0	5.3	15.8	
Level of Service	D	C	B	A	B	
Approach Delay (s)	45.2			7.2	15.8	
Approach LOS	D			A	B	

Intersection Summary

HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: SW A Ave & 2nd St

12/4/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	1069	42	43	632	26	28	7	22	26	11	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			0.99	
Frt	1.00	0.99		1.00	0.99			0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1803	3499		1680	3517			1698			1734	
Flt Permitted	0.38	1.00		0.22	1.00			0.86			0.86	
Satd. Flow (perm)	727	3499		385	3517			1490			1530	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	1137	45	46	672	28	30	7	23	28	12	27
RTOR Reduction (vph)	0	2	0	0	2	0	0	20	0	0	24	0
Lane Group Flow (vph)	31	1180	0	46	698	0	0	40	0	0	43	0
Confl. Peds. (#/hr)	1		26	26		1	7		15	15		7
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	2%	6%	6%	2%	0%	4%	0%	0%	0%	0%	0%
Tum Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	69.0	69.0		69.0	69.0			11.0			11.0	
Effective Green, g (s)	69.0	69.0		69.0	69.0			11.0			11.0	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.12			0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			2.5			2.5	
Lane Grp Cap (vph)	557	2683		295	2696			182			187	
v/s Ratio Prot		c0.34			0.20							
v/s Ratio Perm	0.04			0.12				0.03			c0.03	
v/c Ratio	0.06	0.44		0.16	0.26			0.22			0.23	
Uniform Delay, d1	2.6	3.7		2.8	3.1			35.6			35.7	
Progression Factor	1.00	1.00		1.98	1.99			1.00			1.00	
Incremental Delay, d2	0.2	0.5		0.3	0.1			0.4			0.5	
Delay (s)	2.7	4.2		5.8	6.2			36.1			36.1	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		4.2			6.1			36.1			36.1	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			6.8			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			54.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
5: SW A Ave & 1st St

12/4/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	1038	62	98	576	21	64	19	95	46	28	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.95		1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.98	1.00		0.98	1.00
Frt	1.00	0.99		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.97	1.00
Satd. Flow (prot)	1805	3495		1805	3516			1798	1526		1808	1557
Flt Permitted	0.95	1.00		0.95	1.00			0.72	1.00		0.78	1.00
Satd. Flow (perm)	1805	3495		1805	3516			1350	1526		1445	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	1104	66	104	613	22	68	20	101	49	30	44
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	83	0	0	36
Lane Group Flow (vph)	17	1166	0	104	633	0	0	88	18	0	79	8
Confl. Peds. (#/hr)	13		27	27		13	19		28	28		19
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		4
Actuated Green, G (s)	2.8	51.2		7.7	56.1			16.1	16.1		16.1	16.1
Effective Green, g (s)	2.8	51.2		7.7	56.1			16.1	16.1		16.1	16.1
Actuated g/C Ratio	0.03	0.57		0.09	0.62			0.18	0.18		0.18	0.18
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.5	3.8		2.5	3.8			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	56	1988		154	2192			242	273		258	279
v/s Ratio Prot	0.01	c0.33		c0.06	c0.18							
v/s Ratio Perm								c0.07	0.01		0.05	0.01
v/c Ratio	0.30	0.59		0.68	0.29			0.36	0.07		0.31	0.03
Uniform Delay, d1	42.6	12.6		39.9	7.8			32.5	30.7		32.1	30.5
Progression Factor	0.83	1.37		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2.1	1.2		10.1	0.3			0.7	0.1		0.5	0.0
Delay (s)	37.5	18.4		50.1	8.1			33.1	30.8		32.6	30.5
Level of Service	D	B		D	A			C	C		C	C
Approach Delay (s)		18.7			14.0			31.9			31.9	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: SW A Ave & N State St

12/4/2013



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	275	887	511	670	1267	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.88	0.91	0.91	0.95	
Frb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	0.99	1.00	
Satd. Flow (prot)	1752	2759	1610	3391	3498	
Flt Permitted	0.95	1.00	0.95	0.51	1.00	
Satd. Flow (perm)	1752	2759	1610	1730	3498	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	284	914	527	691	1306	190
RTOR Reduction (vph)	0	0	0	0	12	0
Lane Group Flow (vph)	284	914	395	823	1484	0
Confl. Peds. (#/hr)	7	1	8			8
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	3%	2%	2%	1%	1%	1%
Tum Type		pm+ov	Prot			
Protected Phases	8	1	1	6	2	
Permitted Phases		8				
Actuated Green, G (s)	18.0	40.5	22.5	69.0	42.0	
Effective Green, g (s)	18.0	40.5	22.5	69.0	42.0	
Actuated g/C Ratio	0.19	0.42	0.23	0.72	0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.3	2.3	2.3	3.8	3.8	
Lane Grp Cap (vph)	329	1293	377	1633	1530	
v/s Ratio Prot	c0.16	0.17	c0.25	0.12	c0.42	
v/s Ratio Perm		0.17		0.24		
v/c Ratio	0.86	0.71	1.05	0.50	0.97	
Uniform Delay, d1	37.8	22.9	36.8	6.0	26.4	
Progression Factor	1.00	1.00	1.00	1.00	0.51	
Incremental Delay, d2	19.8	1.6	59.4	0.1	13.7	
Delay (s)	57.7	24.4	96.1	6.1	27.1	
Level of Service	E	C	F	A	C	
Approach Delay (s)	32.3			35.3	27.1	
Approach LOS	C			D	C	

Intersection Summary

HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

7: Evergreen Rd & 2nd St

12/4/2013



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	17	16	18	9	4	11
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	26	24	27	14	6	17
Pedestrians			5		1	
Lane Width (ft)			12.0		12.0	
Walking Speed (ft/s)			4.0		4.0	
Percent Blockage			0		0	
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)					468	
pX, platoon unblocked						
vC, conflicting volume	49	25	34	6	5	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	49	25	34	6	5	
tC, single (s)	7.2	6.6	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.6	4.1	4.0	3.3	2.2	
p0 queue free %	97	97	97	99	100	
cM capacity (veh/h)	901	853	856	1077	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	50	41	23
Volume Left	26	0	6
Volume Right	0	14	17
cSH	877	919	1623
Volume to Capacity	0.06	0.04	0.00
Queue Length 95th (ft)	5	3	0
Control Delay (s)	9.4	9.1	1.9
Lane LOS	A	A	A
Approach Delay (s)	9.4	9.1	1.9
Approach LOS	A	A	

Intersection Summary			
Average Delay		7.8	
Intersection Capacity Utilization		18.4%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

8: 1st St Dwy & 1st St

12/4/2013

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	1	4	6	1	118	5	35	3	109	34	45
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	1	4	7	1	128	5	38	3	118	37	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											344	
pX, platoon unblocked												
vC, conflicting volume	478	351	61	354	373	40	86			41		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	478	351	61	354	373	40	86			41		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	100	99	100	88	100			92		
cM capacity (veh/h)	409	529	1004	562	513	1032	1510			1568		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	41	136	47	204								
Volume Left	36	7	5	118								
Volume Right	4	128	3	49								
cSH	439	984	1510	1568								
Volume to Capacity	0.09	0.14	0.00	0.08								
Queue Length 95th (ft)	8	12	0	6								
Control Delay (s)	14.1	9.2	0.9	4.6								
Lane LOS	B	A	A	A								
Approach Delay (s)	14.1	9.2	0.9	4.6								
Approach LOS	B	A										
Intersection Summary												
Average Delay			6.6									
Intersection Capacity Utilization			32.7%		ICU Level of Service					A		
Analysis Period (min)			15									

EXHIBIT L

Parking Ramp Safety

