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Additional Environmental Analysis

3 Additional Analysis, Revisions and Clarification

This chapter includes an analysis of Alternatives 1B and 2B, described in Chapter 2 of this Final EIS, and revisions and clarifications of information from the Draft EIS.

3.1 Additional Analysis

Section 3.1 describes the impacts of Alternatives 1B and 2B for the same elements of the environment discussed in the April 24, 2014 Draft EIS. Consistent with the analysis conducted in the Draft EIS, this analysis is programmatic and follows the same methodologies described in the Draft EIS. This section of the Final EIS should be read in the context of the Draft EIS because the affected environment section is not repeated. Alternatives 1B and 2B are described in Chapter 2 of this Final EIS.

Land Use

LAND USE PATTERNS AND COMPATIBILITY

Because the proposed zoning designations and development standards for Alternatives 1B and 2B are the same as those assumed for Draft EIS Alternatives 1 and 2, potential impacts to land use patterns and compatibility would be the same as those discussed in the Draft EIS.

Overall, development under Alternatives 1B and 2B would result in slightly greater intensities of development compared to Draft EIS Alternatives 1 and 2. However, the amount of additional development under Alternatives 1B

As described in Chapter 2, Alternatives 1B and2B are based on a residential growth assumption of 5,000 dwelling units, compared to an assumption of 3,900 dwelling units in Alternatives 1 and 2. This increased growth assumption is intended to test the sensitivity of impacts identified in the Draft EIS to increased growth. There are no other differences between Alternatives 1 and 1B and 2 and 2B. FACT SHEET3.1 Additional Analysis1. SUMMARY3.2 Revisions and Clarifications

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and 2B would be relatively limited, estimated at an additional 8 buildings for Alternative 1B and 3 buildings for Alternative 2B. In addition, new development would be based on the same zoning designations as described for Alternatives 1 and 2. For these reasons, the additional development anticipated under Alternatives 1B and 2B is not expected to result in significant impacts beyond those described for Draft EIS Alternatives 1 and 2.

LAND USE PLANS, POLICIES AND REGULATIONS

Because the proposed zoning designations and development standards for Alternatives 1B and 2B are the same as those assumed for Draft EIS Alternatives 1 and 2, consistency with plans and policies would be the same as discussed in the Draft EIS. Please see Final EIS Section 3.2 for an expanded review of consistency with specific UCUC Neighborhood Element policies listed in the Draft EIS. This policy review is the same for the Draft EIS action alternatives and Final EIS Alternatives 1B and 2B.

MITIGATION MEASURES

Because the impacts of Alternatives 1B and 2B are largely the same as those expected from Draft EIS Alternatives 1 and 2, the mitigation identified in the Draft EIS is adequate to mitigate potential impacts unique to Alternatives 1B and 2B. No new mitigation is proposed.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Population, Housing, Employment

POPULATION AND HOUSING

Alternatives 1B and 2B assume 5,000 new housing units, or 1,100 more housing units than assumed for the Draft EIS alternatives. When capacity is compared with the increased total growth anticipated under Alternatives 1B and 2B, the study area still has ample capacity for estimated growth, see Table 3–1. Additional background on the capacity analysis can be found in the Draft EIS.

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Table 3-1. Allematives 1D and 2D Net Development Capacity			
	Alternative 1B Housing Units	Alternative 2B Housing Units	
Capacity ¹	9,130	9,802	
Growth Assumptions	5,000	5,000	
Remaining Capacity ²	4,130	4,802	

Table 3–1: Alternatives 1B and 2B Net Development Capacity

Source: Studio 3MW, Hewitt, Berk 2013, 2014

1 Capacity estimates are based on data in Draft EIS Section 3.2. Because the proposed zoning designations for Alternatives 1B and 2B are the same as those assumed for Draft EIS Alternatives 1 and 2, development capacity is as described in the Draft EIS.

2 Remaining capacity is the additional capacity remaining after development of housing under the alternatives.

Population and housing impacts discussed in the Draft EIS related to concentration and dispersal of growth would also be applicable to Alternatives 1B and 2B.

EMPLOYMENT

Alternatives 1B and 2B do not contemplate any changes to the employment assumptions and would not result in any additional or new impacts to employment beyond the discussion in the Draft EIS.

HOUSING AFFORDABILITY

The Draft EIS discussion of affordability impacts identifies the following conclusions:

- zoning capacity does not constrain housing supply under any of the alternatives;
- expanded capacity for housing in denser multifamily structures, particularly rental units, could help address the affordability challenge;
- construction costs for mid- and high-rise buildings is typically more expensive than for low-rise buildings and these costs are likely to be passed on to the consumer;
- relatively lower cost housing may be lost as redevelopment occurs; with alternatives that contemplate a more focused growth pattern, this impact may be reduced because less land is required to meet growth needs.

These impacts are also true for Alternatives 1B and 2B.

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The Draft EIS estimates the affordable housing that could be created through incentive zoning provisions under each alternative. The assumptions and methodology for this comparison are discussed on Draft EIS page 3.2-20. Table 3–2 below uses the same methodology to estimate the affordable housing that could be generated for Alternatives 1B and 2B. Note that the estimates are provided for residential development only; Alternatives 1B and 2B assume the same commercial development levels as Alternatives 1 and 2.

Table 3–2: Incentive Zoning and Affordable Housing

	Alternative 1B Mixed Use Zones Residential Development	Alternative 2B Mixed Use Zones Residential Development	
Bonus Area ¹	1,301,118 sf	1,646,504 sf	
Affordable Housing Area ²	182,157 sf	230,510 sf	
Affordable Housing Units ³ 214 units		271 units	

1 60% of the bonus area for residential uses is assumed.

2 14% of the bonus area for residential uses is assumed to be developed as affordable housing.

3 Total units if average unit size is assumed at 850 sf.

As shown in this table, an estimated 214 affordable housing units under Alternative 1B and an estimated 271 affordable housing units under Alternative 2B could be created through incentive zoning provisions for residential development. This compares to the estimates of 111 units for Draft EIS Alternative 1 and 177 units for Draft EIS Alternative 2. If the potential bonus commercial area (described on Draft EIS page 3.2-20) is included, the estimated potential housing unit creation through incentive zoning provisions is 394 units under Alternative 1B and 504 units under Alternative 2B. This compares to estimates of 291 units and 410 units for Draft EIS Alternatives 1 and 2, respectively.

As discussed in the Draft EIS, these estimates are only calculated for the purpose of comparing the alternatives. In addition, it should be noted that the additional affordable housing is solely a function of increased residential growth. Under the assumptions of this analysis, increased residential growth under any alternative would result in additional affordable housing. While the assumptions provide a common basis for comparison, individual developer decisions about how to achieve the bonus area will vary and incentive zoning provisions for the study area may provide options that differ from these assumptions.

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MITIGATION MEASURES

Because the impacts of Alternatives 1B and 2B are largely the same as those expected from Draft EIS Alternatives 1 and 2, the mitigation identified in the Draft EIS is adequate to mitigate potential impacts unique to Alternatives 1B and 2B. As noted in the Draft EIS, no significant impacts were identified as a result of the alternatives. However, the EIS includes potential code and programmatic steps that the City could take to address housing affordability. Please see Section 1 of this Final EIS. No new mitigation is proposed.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Aesthetics

The potential impacts of Alternatives 1B and 2B have been evaluated based on the methodology described in Draft EIS Section 3.3.2.

AREA CONTEXT

The aerial views of Alternatives 1B and 2B are shown on pages 3.8–6 through 3.8–13. As in the Draft EIS, these perspectives show:

- 1. Roosevelt Way NE looking south
- 2. NE 45th Street looking west from 17th Avenue NE
- 3. NE 45th Street at I-5 looking east
- 4. Looking northeast from I-5 at the University Bridge

For comparison purposes the existing development pattern and expected development under No Action (Alternative 3) are shown for each view. The additional development that is expected under Alternatives 1B and 2B is shown in a bright orange shade. As these illustrations show, the number of new structures required to accommodate the additional 1,100 units varies depending on the assumed height and bulk of development. For example, a total of eight new buildings are shown in the Alternative 1B representative development pattern, compared to the three new buildings shown in the Alternative 2B representative development pattern. Many, though not all, of the buildings in Alternative 1B, as permitted by the Alternative 2 and 2B development standards. Both Alternatives 1B and 2B would result in the

Figure 3–1.0: Roosevelt Way NE looking south—Existing Conditions



Figure 3–1.1: Roosevelt Way NE looking south—Alternative 1B



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Figure 3–1.2: Roosevelt Way NE looking south—Alternative 2B



Figure 3–1.3: Roosevelt Way NE looking south—Alternative 3



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Figure 3–2.0: NE 45th Street looking west from 17th Avenue NE—Existing Conditions

Figure 3–2.1: NE 45th Street looking west from 17th Avenue NE—Alternative 1B



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Figure 3–2.2: NE 45th Street looking west from 17th Avenue NE—Alternative 2B

Figure 3–2.3: NE 45th Street looking west from 17th Avenue NE—Alternative 3



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Figure 3–3.0: NE 45th Street at Interstate-5 looking east—Existing Conditions

Figure 3–3.1: NE 45th Street at Interstate-5 looking east—Alternative 1B



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Figure 3–3.2: NE 45th Street at Interstate-5 looking east—Alternative 2B

Figure 3–3.3: NE 45th Street at Interstate-5 looking east—Alternative 3





Figure 3–4.0: Looking northeast from Interstate-5 at the University Bridge—Existing Conditions

Figure 3–4.1: Looking northeast from Interstate-5 at the University Bridge—Alternative 1B



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Figure 3–4.2: Looking northeast from Interstate-5 at the University Bridge—Alternative 2B



Figure 3–4.3: Looking northeast from Interstate-5 at the University Bridge—Alternative 3



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> greatest visual impacts looking to the east and west along NE 45th Street, and more limited impacts looking south from Roosevelt Way NE and northeast from I-5. Similar to Draft EIS Alternatives 1 and 2, the overall development pattern anticipated by Alternatives 1B and 2B would reinforce the highly urban character of development in the U District study area and is not considered a significant impact.

NEIGHBORHOOD CHARACTER

In general, the impacts of Alternatives 1B and 2B would be similar to those described for Draft EIS Alternatives 1 and 2. The alternatives would reinforce the urban character of the core and preserve the existing single family character in the northern portion of the study area. Alternative 2B would result in a development pattern that is more focused around the core than Alternative 1B. Compared to the Draft EIS action alternatives, Alternatives 1B and 2B would result in a slightly more intensive development pattern, but are not expected to result in any new significant impacts to neighborhood character.

HEIGHT, BULK AND SCALE

Although Alternatives 1B and 2B would result in more development than assumed in the Draft EIS action alternatives, building height, bulk and scale would be based on the same standards as in the Draft EIS and impacts would be similar to those described for Draft EIS Alternatives 1 and 2.

The street-level views illustrated in the Draft EIS were also prepared for Alternatives 1B and 2B. The only two street-level perspectives that differ from those shown in the Draft EIS are the views to the east and west along NE 45th Street. These views are shown in Figure 3–5 and Figure 3–6 and described below. For comparison purposes, the figures include a view of existing conditions and anticipated development under Alternative 3 (No Action). New development anticipated under Alternatives 1B and 2B are shown in gold.

Additional development related to Alternatives 1B and 2B is shown in a gold shade.

NE 45TH STREET, LOOKING EAST FROM 7TH AVENUE NE

From this perspective, representative development under Alternatives 1B and 2B would include new development on the south side of NE 45th Street. In conjunction with development anticipated by the Draft EIS action

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alternatives, new development would frame the NE 45th Street corridor in this area. Compared to existing conditions and No Action, views to the sky would be narrowed and bounded by the towers along the corridor.

NE 45TH STREET, LOOKING WEST FROM 15TH AVENUE NE

From this perspective, new development associated with Alternatives 1B and 2B are visible in the background, but do not represent a significant difference from this same view of Draft EIS Alternatives 1 and 2.

SCENIC ROUTES

The Draft EIS analysis of potential impacts to scenic routes considered changes to building height and development intensity based on proposed zoning designations. Because Alternatives 1B and 2B assume the same zoning designations and development standards as the Draft EIS action alternatives, potential impacts on scenic routes would be as described for Alternatives 1 and 2 in the Draft EIS.

SHADOWS

As noted in the Draft EIS, the shadow analysis modeled the maximum building envelope surrounding the public parks in the study area. Because Alternatives 1B and 2B assume the same development standards as the Draft EIS action alternatives, potential impacts on shadows would be as described for Alternatives 1 and 2 in the Draft EIS.

MITIGATION MEASURES

Because the impacts of Alternatives 1B and 2B are largely the same as those expected from Draft EIS Alternatives 1 and 2, the mitigation identified in the Draft EIS is adequate to mitigate potential impacts of Alternatives 1B and 2B. No new mitigation is proposed.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

1.SUMARY
3.Arcializations

3.Arcializations
3.Parking and Clarifications

4.Comments
3.Parking and Clarifications

Figure 3-5.0:
Existing Conditions on NE 45th Street Looking east from 7th Avenue NE

Image: Comments
Image: Comments

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Figure 3–5.1: Alternative 1B on NE 45th Street looking east from 7th Avenue NE



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Note: On these two pages, the colored buildings represent potential new development under the various alternatives.



Figure 3–5.3: Alternative 3 on NE 45th Street looking east from 7th Avenue NE





Figure 3–6.1: Alternative 1B on NE 45th Street looking west from 15th Avenue NE



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Figure 3–6.3: Alternative 3 on NE 45th Street



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Historic Resources

Alternatives 1B and 2B could potentially affect designated historic buildings and those identified as eligible for historic status. Impacts could include demolition, inappropriate rehabilitation and re-use, or changes in the physical context (i.e. new construction adjacent or across the street) as a result of development pressure that could damage integrity of individual buildings and the character of the street. Conversely, a more economically vibrant community could spur investment in character and historic properties, particularly along University Way NE if they are protected, and could advance historic designations among the apartment buildings in the study area to take advantage of rehabilitation tax incentives.

Impacts would be similar to those described for Draft EIS Alternatives 1 and 2, although the increased number of residential units could result in increased pressure for redevelopment and conversion of existing structures. Because development will occur on an incremental basis over time, the City will be able to monitor and address potential land use imbalances through the GMA comprehensive planning process. No significant impacts beyond those described for Draft EIS Alternatives 1 and 2 are anticipated.

MITIGATION MEASURES

Mitigating measures identified in the Draft EIS would be adequate to address potential impacts of Alternatives 1B and 2B. No new mitigation is proposed.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Transportation

In the analysis of Alternatives 1B and 2B, the 2035 No Action Alternative (Alternative 3) still acts as the baseline for identifying transportation impacts. As described in the Draft EIS, a significant transportation impact is identified if an action alternative would:

 Cause the ratio between PM peak hour travel time and free-flow travel time to be greater than or equal to 3.33 (LOS F) for more than

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20% of the total PM peak hour study segment VMT. This threshold is used for both auto and freight travel.¹

- Cause travel time on a transit analysis corridor to increase by more than 10% compared to the No Action Alternative or cause any increase on a transit analysis corridor already operating at LOS F under the No Action Alternative.
- Cause an increase in the proportion of pedestrian travel in an area with high priority pedestrian improvement needs, compared to the No Action Alternative.
- Cause an increase in the proportion of bicycle travel in an area with high priority bicycle improvement needs, compared to the No Action Alternative.
- Cause on-street parking demand to exceed on-street parking supply.
- Cause an increase in vehicle, pedestrian, or bicycle volumes at a High Accident Location compared to the No Action Alternative.

MODE CHOICE

Mode share percentages for Alternatives 1B and 2B are expected to be very similar to those projected for Alternatives 1, 2, and 3 in the Draft EIS. As with Alternatives 1 and 2, Alternatives 1B and 2B are expected to have slightly lower auto mode shares and slightly higher pedestrian, bicycle, and transit mode shares than the No Action Alternative. Both new alternatives are expected to meet the City's 70% non-SOV mode split goal, so no mode share impacts are expected.

AUTO AND FREIGHT

Most auto and freight travel times are expected to increase by no more than 5 seconds over the Alternative 1 and 2 estimates on any given corridor. Travel time across the University Bridge is expected to increase by 5 to 10 seconds over the Alternative 1 and Alternative 2 estimates. Under Alternatives 1B and 2B, the LOS F corridors would represent 19.0% and 19.1% of the total study segment VMT, respectively. Although this is slightly higher than the percentage of study segment VMT that would operate at LOS F conditions

¹ As described in the Draft EIS, this threshold is meant to achieve a point of balance between two ends to the spectrum: not so low as to allow very minor changes to trigger an impact, and no so high as to dilute the meaning of the performance measure.

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under the No Action Alternative, the difference does not meet the threshold defined for a significant impact. Therefore, no significant travel time impacts are expected under Alternatives 1B or 2B. The potential freight impacts identified in the Draft EIS would be the same for Alternatives 1B and 2B.

TRANSIT

Most travel time increases are expected to be no more than 5 seconds compared to Alternatives 1 and 2. Transit travel times are expected to increase by 5 to 10 seconds over the Alternative 1 and Alternative 2 estimates on the University Bridge and 7th Avenue NE. Four corridors meet the impact criteria under Alternatives 1B and 2B:

- ▶ Westbound NE 45th Street from Roosevelt Way NE to NE 5th Avenue
- Northbound 7th Avenue NE from NE 42nd Street to NE 45th Street
- Northbound University Bridge from Fuhrman Avenue E to NE Campus Parkway
- Northbound University Way NE from NE Pacific Street to NE 45th Street

The impact on northbound 7th Avenue NE is triggered by a travel time increase of at least 10% compared to the No Action Alternative. However, that corridor is still expected to operate at LOS C. Moreover, with University Link light rail open in the future, it is likely that fewer buses would be using that route. The other three impacted facilities would operate at LOS F under the No Action Alternative and would see slight increases in travel time under Alternatives 1B and 2B, triggering the impact. Except for the westbound NE 45th Street segment, which is a new transit impact identified for Alternatives 1B and 2B, these transit impacts are the same as were identified for Alternative 1 and 2 in the Draft EIS.

PEDESTRIAN & BICYCLE SYSTEM

As with Alternatives 1 and 2, Alternatives 1B and 2B are expected to result in an increase to the pedestrian and bicycle mode share within the study area compared to the No Action Alternative. Since the City's Pedestrian Master Plan and Bicycle Master Plan have identified high priority improvement needs within the study area, this increase in facility users would result in a significant impact. The location of the highest intensity pedestrian and bicycle increases would likely be between NE 50th Street and NE 42nd Street with particularly high activity at the Link light rail station at Brooklyn Avenue NE and NE 45th Street.

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SAFETY

As stated in the Draft EIS, no High Accident Locations were identified in the study area. Therefore, no safety impacts are expected. There is nothing to suggest the volume-based rate of vehicle-to-vehicle collisions would increase under Alternatives 1B and 2B, although, because of growth in traffic, the total number of vehicle collisions may increase slightly.

As stated in the Draft EIS, the intersection of Brooklyn Avenue NE and NE 45th Street should be prioritized for improvement as traffic volumes increase given its identification as a pedestrian intersection of interest.

PARKING

The type of impacts identified for Alternatives 1 and 2 in the Draft EIS are also expected for Alternative 1B and 2B: namely, potential impacts to onstreet parking supply, as well as potential spillover impacts into Roosevelt and University Park. The severity of the impacts under Alternatives 1B and 2B is likely higher than under Alternatives 1 and 2 given the increased number of households.

IMPACT SUMMARY

With the exception of the transit travel time impact on NE 45th Street, the type and location of impacts projected for Alternatives 1B and 2B are the same as those identified for Alternatives 1 and 2 in the Draft EIS. Although the severity may vary, these differences do not meet the threshold for a significant impact.

MITIGATION MEASURES

Since the impacts for Alternatives 1B and 2B are largely the same as Alternatives 1 and 2, the mitigating measures discussed in the Draft EIS also apply to Alternatives 1B and 2B.

The only additional specific impact is to transit travel times on NE 45th Street from Roosevelt Way NE to NE 5th Avenue. The Transit Master Plan identifies speed and reliability improvements on that corridor (TMP Corridor 13/13A) that would reduce travel times by an estimated 20 percent. This reduction applied to the travel time forecast would mitigate the impact to NE 45th Street. All other mitigating measures for Alternatives 1B and 2B would be identical to those described for Alternatives 1 and 2 in the Draft EIS. FACT SHEET3.1 Additional Analysis1. SUMMARY3.2 Revisions and Clarifications

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SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Greenhouse Gas Emissions

Alternatives 1B and 2B were reanalyzed in terms of greenhouse gas emissions. Since Alternatives 1B and 2B include more household growth, the study area's vehicle miles travelled (VMT) and total emissions would be slightly higher than the No Action Alternative (and Alternatives 1 and 2). However, per capita greenhouse gas emissions are essentially equivalent among the five alternatives, at 2.0 pounds of CO2e per person during the 3-hour PM peak period. This level of per capita GHG emissions is lower than both existing conditions as well as a less-centrally located comparison site such as Redmond.

Since annual emissions would be higher under Alternatives 1B and 2B than under the No Action Alternative, an impact is expected. However, given that the difference in emissions is less than 2 percent and the per capita emissions are equivalent, this impact is not considered significant.

MITIGATION MEASURES

No new mitigation measures are identified.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Open Space

Alternatives 1B and 2B would result in an increased 2035 Village Open Space target of 11.14 acres, by household. The Village Open Space target for employment would remain at 1.11 acres, as shown in the Draft EIS. Based on these targets, the total 2035 Village Open Space target would be 12.25 acres, or 1.1 acres more than the target for Alternatives 1 and 2. Corresponding to this increased demand, the estimated 2035 open space shortfall of the target would be 5.8 acres, compared to 4.7 acres for Draft EIS Alternatives

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1 and 2. Please see revised Draft EIS Table 3.7-3, Comprehensive Plan Open Space and Recreation Facility Goals for U District, in Section 3.2 of this Final EIS for additional information.

Other potential impacts for Alternatives 1B and 2B would be similar to those described for Alternatives 1 and 2 in the Draft EIS.

MITIGATION MEASURES

Mitigating measures identified in the Draft EIS would be adequate to address potential impacts of Alternatives 1B and 2B.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Public Services

FIRE AND EMERGENCY SERVICES

As described in the Draft EIS, the potential for impacts to fire and emergency services is based primarily on the total amount of development rather than the distribution of development with the study area. Because of this, the higher development levels assumed for Alternatives 1B and 2B could be expected to result in somewhat higher demands on fire and emergency services. Growth would occur on an incremental basis as individual development projects are built. Depending on the amount and rate of new development, additional staffing and equipment may be required in order to maintain fire and emergency service performance levels.

All other impacts would be as described in the Draft EIS.

POLICE SERVICES

Impacts of Alternatives 1B and 2B would be as described in the Draft EIS. It is anticipated that the Police Department would have sufficient staffing and facilities to accommodate the increased demand for service in the U District study area and no new impacts would occur as a result of development under these new alternative scenarios. FACT SHEET3.1 Additional Analysis1. SUMMARY3.2 Revisions and Clarifications

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PUBLIC SCHOOLS

Impacts of Alternatives 1B and 2B would be as described in the Draft EIS. An increase in households in the U District would contribute to a continuing need by the Seattle School District to manage capacity at local schools and to construct new and expanded facilities to accommodate a growing student population. Because the District estimates future growth based on a cohort survival model that does not explicitly include consideration of household growth and housing types, it is not possible to quantitatively estimate the impact of increased growth under Alternatives 1B and 2B.

MITIGATION MEASURES

Mitigating measures identified in the Draft EIS would be adequate to address potential impacts of Alternatives 1B and 2B.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

Utilities

WATER SYSTEM

Alternatives 1B and 2B would result in more development and increased demand on the water supply and distribution system compared to the Draft EIS action alternatives. New development will be required to include practices which incorporate water conservation and water reuse measures. It is likely that increased demand associated with the additional 1,100 housing units would be very small relative to available water supply and distribution capacity. No impacts beyond those described in the Draft EIS are anticipated.

SANITARY SEWER SYSTEM

Alternatives 1B and 2B would result in more development and increased demand on the sewer collection, conveyance and treatment facilities compared to the Draft EIS action alternatives. Similar to the Draft EIS action

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alternatives, most of the new growth anticipated under Alternatives 1B and 2B would be focused in the core are, served by the separated sewer system. It is likely that increased demand associated with the additional 1,100 housing units would be very small relative to available sanitary sewer collection, conveyance and treatment facilities. No impacts beyond those described in the Draft EIS are anticipated.

STORM SEWER SYSTEM

As described in the Draft EIS, redevelopment in the study area would be required to provide stormwater detention with Green Stormwater Infrastructure (GSI) that allows some water to infiltrate and be kept on site before the rest is released to the storm sewer. Because these stormwater standards are more stringent than the standards in place historically, no significant impacts to the stormwater system are anticipated under the new alternatives.

ELECTRICITY

Alternatives 1B and 2B would result in increased demand for electrical energy compared to the Draft EIS action alternatives. As described in the Draft EIS, electrical energy is supplied to the study area through three different systems; a network distribution system, a looped radial system and the University of Washington system. These systems cannot be inter-connected and the distribution capacity to serve new development is varied between systems, with the network distribution system being the most constrained. For these reasons, the capacity to serve new development is very site and use specific. Impacts could result under any alternative, including the Alternatives 1B and 2B described in this Final EIS.

MITIGATION MEASURES

Mitigating measures identified in the Draft EIS would be adequate to address potential impacts of Alternatives 1B and 2B.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Alternatives 1B and 2B are not expected to result in significant unavoidable adverse impacts.

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3.2 **Revisions and Clarifications**

This section includes Draft EIS clarifications or revisions based on responses to comments presented in Chapter 4 of this Final EIS or City staff review of the Draft EIS information. The clarifications and revisions are organized in the same order as the Draft EIS sections and by page numbers. Text that has been inserted or deleted since the Draft EIS is shown in cross-out underline format.

Draft EIS Section 3.1 Land Use

Add the following paragraph to the discussion of Alternative 1 impacts to land use compatibility impacts in the Core Area (pp. 3.1-12–13):

In the northwest corner of the Core Area, the proposed mixed use zone with a maximum height of 340 feet would adjoin the existing LR1 and LR2 zones at NE 47th Street, extending from I-5 to just west of Roosevelt Way NE. The LR zones generally allow a maximum building height of 25 to 40 feet. Along this boundary, consideration should be given to ensure a compatible transition between these zones. Please see potential mitigation strategies in Draft EIS Section 3.3, Aesthetics.

Draft EIS Section 3.6 Greenhouse Gas Emissions

Page 3.6-4, corrections as shown below to text.

The results of the EMFAC analysis indicate that the study area generates about $\frac{205}{185}$ metric tons of transportation-related CO₂e per day, or $\frac{7265}{00}$,000 metric tons of transportation-related CO₂e per year.

Table 3.6–2: Existing Annual Greenhouse Gas Emissions Based on King County SEPA GHG Emissions Inventory Worksheet with VMT GHG Tool

Energy Emissions	Transportation Emissions	Total Estimated Existing
(MTCO ₂ e)	(MTCO ₂ e)	GHG Emissions (MTCO ₂ e)*
87,000	72 65,000	159 <u>152</u> ,000

*Total may differ from sum due to rounding during calculation.

Source: Fehr & Peers, 2013

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Since the numbers above are large and difficult to put in perspective, the transportation GHG emissions can be summarized in another way, which compares the three-hour PM peak period CO_2e emissions in pounds per person (residents plus employees in the U District). As a point of comparison, driving an average car for one mile emits approximately one pound of CO_2e .

This result indicates that under existing conditions, each person who lives/ works in the area generates about 2.952.7 pounds of CO2e per person in the PM peak period. This result is higher than the 2035 CO2e emissions estimates discussed under Impacts of the Alternatives later in this section (roughly 2.222.0 pounds per person), which is expected given the lower densities under existing conditions.

Based upon the calculations from the table above, the U District currently generates roughly 159<u>152</u>,000 MTCO,e GHG per year.

Page 3.6-6, corrections as shown below to text.

Similar to how the existing conditions GHG emissions were calculated, the MXD model and VMT-GHG spreadsheet were used to forecast 2035 annual transportation emissions. The results are shown below and an example calculation can be found in Appendix E updated Appendix B.

Existing Conditions	72<u>65</u>,000 MMCO₂e
No Action Alternative	86<u>77</u>,000 MMCO₂e
Alternative 1	84<u>75</u>,000 MMCO₂e
Alternative 2	85<u>76</u>,000 MMCO₂ e

Table 3.6–4 illustrates that under existing conditions, each person who lives or works in the area generates about 2.95<u>2.7</u> pounds of CO₂e during the PM peak period. This result is higher than the CO₂e emissions estimates for both of the action alternatives, which is expected given the lower densities under existing conditions. As is also shown in Table 3.6–4, the two action alternatives produce transportation GHG emissions per capita that is about two percent lower than are equivalent to the No Action Alternative.

-	
	Pounds of CO ₂ e per Person*
	during 3 Hour
	PM Peak Period
Existing Conditions	2.95 2.7
No Action Alternative	2.26<u>2.0</u>
Alternative 1	2.22 2.0
Alternative 2	2.22 2.0
Redmond Comparison Site	<u>4.184.2</u>

Table 3.6–4: Estimated Transportation GHG Emissions: VMT-GHG Analysis Tool

*U District residents and employees

Source: Fehr & Peers and Studio 3MW, 2013

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The table also shows the result of the transportation GHG emissions rates for a more suburban employment center that is otherwise similar to the U District: Downtown Redmond. While Downtown Redmond is not located next to a major university, the overall level of employment and housing is similar to the U District. Downtown Redmond is also close to the major employment centers of Overlake and Downtown Bellevue, similar to the U District's proximity to Downtown Seattle. As shown, Downtown Redmond <u>would generate more than double the has about 85 percent higher</u> CO₂e emissions per person because it is more isolated and less dense than the U District. Downtown Redmond also has substantially less transit service than the U District, even when assuming the extension of East Link and several major frequent bus lines to Seattle, Kirkland, and Bellevue.

Page 3.6-7, corrections as shown below to text.

Based on these calculations, all three 2035 alternatives generate roughly the same annual GHG emissions. The same embodied and

Table 3.6–5: GHG Emissions Based on King County SEPA GHG Emissions Inventory Worksheets and VMT-GHG Analysis Tool

	Estimated Annual GHG Emissions Associated by Alternative (MTCO ₂ e)
Existing Conditions	159 <u>152</u> ,000
No Action Alternative	218 209,000
Alternative 1	216 207,000
Alternative 2	216<u>207</u>, 000

Source: Fehr & Peers and Studio 3MW, 2013

energy emissions are expected under all three alternatives since the planning estimates are identical. The variation is within one percent and represents slightly different distribution patterns for the land uses and resulting differences in transportation-related GHG emissions:

- Alternatives 1 and 2 would generate roughly 216207,000 MTCO₂e GHG annual emissions
- Alternative 3 (No Action) would generate roughly 218209,000 MTCO₂e GHG annual emissions

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Draft EIS Section 3.7 Open Space & Recreation

Page 3.7-4., correction to size of new waterfront park, as shown below.

New waterfront park. To help mitigate the impacts of expanding SR 520, the Washington State Department of Transportation will pay for shoreline restoration and recreation improvements at Sakuma Viewpoint and the larger property to the west. Both are currently owned by UW, but the new park will be owned and managed by Seattle Parks. It is expected to be about 1.62 <u>2</u> acres.

Page 3.7-8., correction to Table 3.7-3, as shown below

Table 3.7–3: Comprehensive Plan Open Space and Recreation Facility Goals for U District

	Comprehensive Plan Goal	U District Target	Resource	Status
	Open Space Supply			
2013	Village Open Space ▶ one acre per 1,000 households ▶ one acre per 10,000 jobs	6.77 acres total 6.14 acres, by household 0.63 acres, by jobs	3.85 <u>4.0</u> acres	Goal not met: 2.9<u>2.77</u>-acre deficit
2035	Village Open Space ▶ one acre per 1,000 households ▶ one acre per 10,000 jobs	11.15 acres total 10.04 acres, by household 1.11 acres, by jobs	6.04 <u>6.45</u> acres anticipated, per planned projects	Goal not met: 5.1 <u>4.7</u> -acre deficit

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Section 3.9 Utilities

Page 3.9-6. Figures 3.9-6 and 3.9-7 are corrected as shown below.

Figure 3.9–6:

Electric Network Service Area Underground Electric Service Area



Figure 3.9–7:

Underground Electric Service Area Electric Network Service Area

