5 CUMULATIVE IMPACTS

5.1 CEQA REQUIREMENTS

The State CEQA Guidelines (CCR Section 15130) requires that an environmental impact report (EIR) discuss cumulative impacts of a project. A project's contribution to a cumulative impact is considered significant when the project's incremental effect is "cumulatively considerable." The definition of cumulatively considerable is provided in CCR Section 15065(a)(3):

> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to the State CEQA Guidelines (CCR Section 15130[b]),

> The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this Draft EIR, the project would have a significant cumulative effect if it meets either one of the following criteria:

- The cumulative effects of related projects (past, current, and probable future projects) without the project are not significant but the project's incremental impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or
- The cumulative effects of related projects (past, current, and probable future projects) without the project are already significant and the project represents a considerable contribution to the already significant effect. The standards used herein to determine "considerable contribution" are that the impact either must be substantial or must exceed an established threshold of significance.

Mitigation measures are to be developed, where feasible, to reduce the project's contribution to cumulative effects such that the contribution is not considerable.

This cumulative analysis assumes that all mitigation measures identified in Sections 4.1 through 4.15 to mitigate project impacts are adopted, unless otherwise specified. The analysis herein analyzes whether, after adoption of project-specific mitigation, the residual impacts of the project would cause a cumulatively significant impact or would contribute considerably to existing/anticipated (without the project) cumulatively significant effects.

5.2 SCOPE OF THE CUMULATIVE ANALYSIS

The geographic area that could be affected by development of the project varies depending on the type of environmental resource being considered. The general geographic area associated with various environmental effects of project construction and operation defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Table 5-1 presents the general geographic areas associated with the different resources addressed in this Draft EIR and evaluated in those sections of this cumulative analysis.

Table 5-1 Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Aesthetics and Visual Resources	Local (project site and surrounding public viewpoints)
Agriculture and Forestry Resources	Regional (Yolo County)
Air Quality	Regional (Yolo Solano Air Quality Management District—pollutant emissions that have regional effects) Local (immediate project vicinity—pollutant emissions that are highly localized)
Biological Resources	Regional (Yolo County HCP/NCCP Planning Area) and local
Cultural Resources	Local
Geology, Soils, and Mineral Resources	Local
Greenhouse Gas Emissions, Climate Change, and Energy	Global
Hazards and Hazardous Materials	Local (immediate project vicinity)
Hydrology and Water Quality	Regional and local
Land Use and Planning	Local (City of Davis)
Noise and Vibration	Local (immediate project vicinity where effects are localized)
Population and Housing	Local
Public Services and Recreation	Local service areas
Transportation and Circulation	Regional and local
Utilities	Local service areas

As noted in Table 5-1, the potential geographic scope of some cumulative effects is more localized than others. To account for both regional and localized cumulative impacts, this EIR uses regional growth projections to assess regionally cumulative impacts and the list method to assess more localized cumulative impacts. Table 5-2 (correlated with their locations in Figure 5-1) lists past, present, and future development projects in the vicinity of the project site. This list is not intended to be an all-inclusive list of projects in the region, but rather an identification of projects constructed, approved, or under review in the vicinity of the project site (approximately one mile) that have some relation to the environmental impacts of construction and operation of the Nishi Gateway project. Two additional projects, the Mace Ranch Innovation Center and Davis Innovation Center are also included in the list shown on Table 5-2 and depicted in Figure 5-2 because of their size, although they are located more than one mile from the project site. Although the applicants for the Davis Innovation Center placed their project "on hold" in May 2015, the project is included within this Cumulative Impacts chapter to provide a conservative analysis of potential impacts should entitlement review be re-initiated and the project be approved. The list of projects used in this cumulative analysis is based on information for approved and pending projects obtained from the City of Davis, University of California at Davis (UC Davis), Yolo County, and Solano County. There are no related projects proposed by Yolo or Solano counties that are within the vicinity (1-mile radius) of the project site.

It is worth noting that UC Davis is embarking on preparation of a new or updated Long Range Development Plan (LRDP). The current LRDP, last updated in 2003, was intended to layout plans for campus development through 2015-16. The plan is reaching its intended horizon; this EIR addresses cumulative projects included as part of the LRDP that are related to issues associated with the Nishi Gateway Project. Because the new/updated LRDP has not been prepared/adopted, it is not considered in the cumulative analysis.

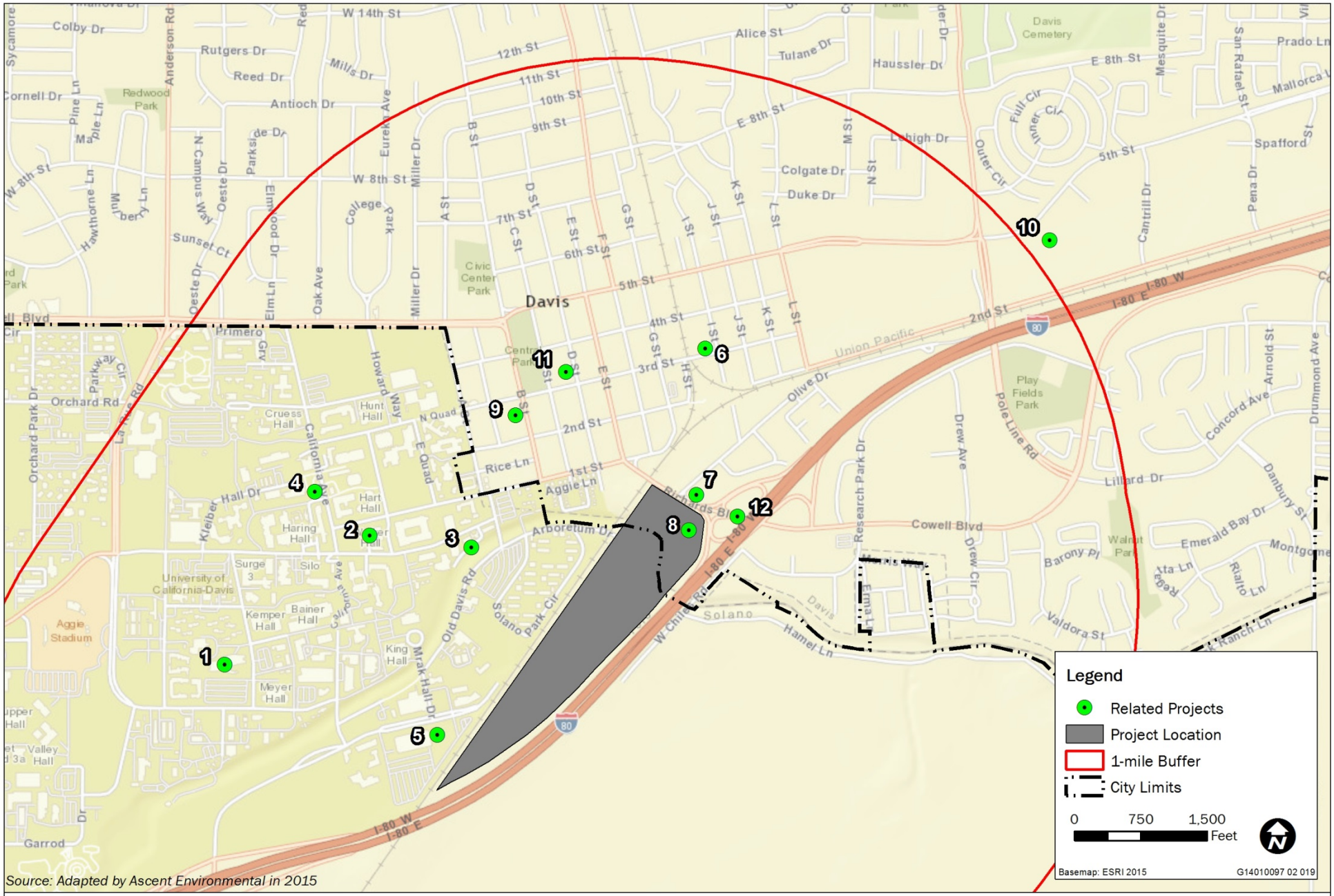

Figure 5-1

Cumulative Projects (1 of 2)

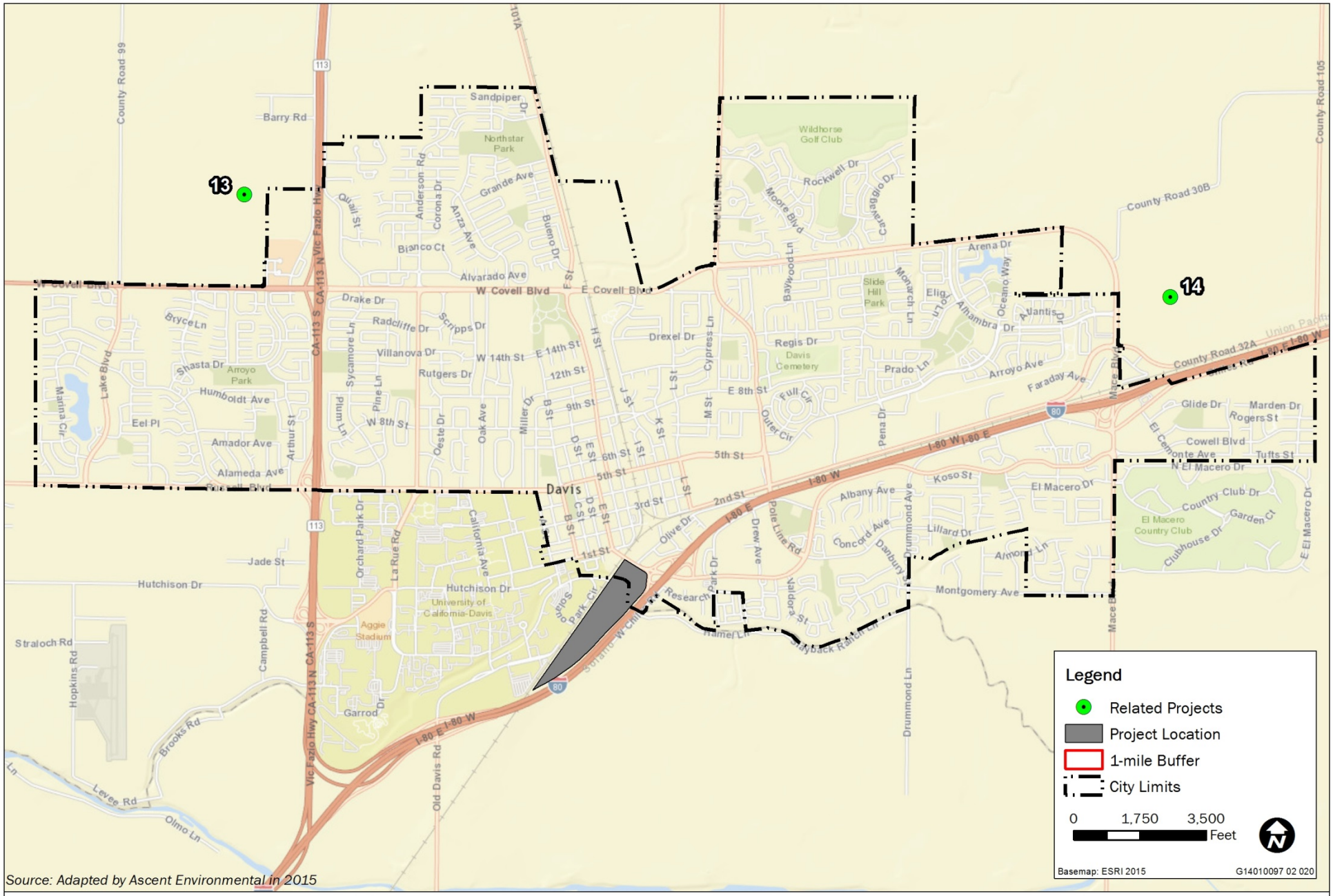

Figure 5-2 **Cumulative Projects (2 of 2)**

Table 5-2 Cumulative Projects List

Map Key	Project Name	Developed or Proposed Land Use	Size (Acreage and/or Dwelling Units)	Built/Approved/ Proposed
1	Tercero Student Housing Phase 4	UC Davis	Student housing on a 3.5-acre	Proposed
2	Walker Hall Redevelopment	UC Davis	Redevelopment of a 0.85-acre site	Proposed
3	Ann E. Pitzer Center	UC Davis	Classroom/concert hall on a 0.4-acre site	Approved
4	Large Lecture Hall Project	UC Davis	Lecture hall on a 0.3-acre site	Proposed
5	Shrem Art Museum	UC Davis	29,000 square foot art museum	Approved
6	Trackside	Mixed Use Residential	48 residential units with ground floor retail	Proposed
7	Shell Station	Commercial Retail	Gas station, convenience store, and carwash on a 0.5-acre site	Approved
8	Embassy Suites	Commercial Hotel	132-room hotel	Proposed
9	Mission Residences	Residential Development	14 condominiums replacing 2 single-family residences	Proposed
10	Families First	Residential Development	270 apartments on a 6-acre site	Proposed
11	Yackzan Project	Mixed Use	3 apartment units and 1 office	Approved
12	Richards Blvd. Interchange Improvements	Interchange Improvements	n/a	Proposed
13	Davis Innovation Center	Master Planned Community	Up to 4 million square feet of building space (including a 200-room hotel with convention center, office/research & development space, and other retail/supporting services such as restaurants and day care) and 52 acres of open space on a 207.5-acre site	Proposed
14	Mace Ranch Innovation Center	Master Planned Community	2,654,000 square feet of research/office/research development, manufacturing/research, hotel/conference, and ancillary retail space on a 228.7-acre site	Proposed

Note: The Davis and Mace Ranch Innovation Centers are not located within a one-mile radius of the project site, but are included here because of their size and potential to combine with the Nishi Gateway project in creating localized cumulative impacts. Although the applicants for the Davis Innovation Center placed their project "on hold" in May 2015, the project is included within this Cumulative Impacts chapter to provide a conservative analysis of potential impacts should entitlement review be re-initiated and the project be approved.

Source: Data compiled by Ascent Environmental in 2015 based on data obtained from the City of Davis, University of California at Davis (UC Davis), Yolo County, and Solano County in 2015

5.3 CUMULATIVE IMPACT ANALYSIS

5.3.1 Aesthetics and Visual Resources

Development of past and current projects, and future proposed projects continue to alter the visual environment of Davis and the surrounding area. With few exceptions, the visual resource impacts of the related projects listed above are site-specific and would not necessarily combine with other projects because they are not in the same viewshed. The Shell Station and Embassy Suites projects would be in close enough proximity to the Nishi site and West Olive Drive that a cumulative effect could potentially occur in the same viewshed that includes the Nishi site. However, the addition of a gas station and hotel in this urbanized area would not combine with visual changes from Nishi and West Olive Drive to degrade the viewshed; to the contrary, West Olive Drive (in the same viewshed as these other projects) would be visually upgraded as part of the project, and this adjacent development would not combine to degrade the viewshed.

The most prominent public viewshed for the project is I-80, which passes next to the site on its southerly boundary with over 100,000 vehicles per day. This viewshed is shared with UC Davis, particularly newer buildings that include the Mondavi Center, Mondavi Institute for Wine and Food Science and other structures that display a high degree of architectural style and interest. The Jan Shrem and Maria Manetti Shrem Museum of Art, which is designed with a similarly high degree of architectural style, is under construction adjacent to the southerly area of the Nishi site. Given the quality of architecture, it can be concluded that, while the viewshed has been substantially altered, the cumulative change is high in visual quality and beneficial. The project is intended to compliment, rather than detract from, the cumulative viewshed experience. Project-related structures are intended to contribute to the urban form being created in this section of the viewshed, with mid-rise housing and office/R&D development, open space, and quality architecture. Importantly, buildings on Nishi are proposed in locations that would not block key views of the newer UC Davis development, including the nearby Shrem Art Museum construction project and the Mondavi Center. New development would be visually compatible with surrounding existing and new development. Therefore, cumulative viewshed impacts would be less than significant.

Cumulative effects of lighting are visible over a wide area, because of the potential for lighting from a number of projects to create skyglow. Under existing conditions, the Nishi site is unlit during nighttime hours, and the surrounding area, including West Olive Drive, has minimal nighttime lighting associated with building and street lighting; therefore, the Nishi site and surrounding area does not presently contribute to skyglow in the area. As described in Impact 4.1-2, the project would introduce new lighting sources at the Nishi site and West Olive Drive; however, these fixtures would comply with the City's Outdoor Lighting Ordinance and would not create an adverse skyglow condition. Therefore, the project would not have a considerable contribution to skyglow such that a new significant skyglow impact would occur. This would be a less-than-significant cumulative impact.

Development of the Nishi Gateway project in combination with cumulative development would not result in substantial changes to the local viewshed because it would be compatible with the surrounding visual environment. New lighting sources associated with the Nishi Gateway project and cumulative development would not contribute considerably to the overall skyglow. Therefore, the project would result in a **less-than-significant** cumulative visual impact.

5.3.2 Agriculture and Forest Resources

In 2006, there were approximately 540,000 acres of agricultural land in Yolo County. Between 2006 and 2012, approximately 8,400 acres of farmland (including grazing land) have been converted to non-agricultural uses within Yolo County, an approximately 1.5 percent decline in available farmland over that period (California Department of Conservation 2013). While the Nishi site is not designated as Important Farmland, it does meet the criteria established in the Land Evaluation and Site Assessment model for significant farmland. Therefore, the removal of such agricultural land would be considered cumulatively considerable in the context of agricultural lands within the County. It should be noted that because of the isolated nature of the Nishi site compared to other agricultural land within the County, development of the project site and conversion of agricultural land within the Nishi site would not influence future conversion of nearby agricultural lands to urban uses.

The project would require an amendment to the City of Davis General Plan, prezoning of the site to a non-agricultural use, and annexation into the City of Davis. The project would also be required to comply with Davis Municipal Code 40A.03 that requires the purchase of compensatory agricultural lands to be maintained in perpetuity at a 2:1 ratio compared to those lost/converted. However, even with adherence to City Municipal Code requirements, the project would result in a net loss of approximately 43.5 acres of active agricultural land as a result of development. Coupled with the potential loss of up to 438 acres of agricultural land associated with the Mace Ranch and Davis Innovation Center projects, impacts would be considered significant.

There are no forestry resources on the project site and thus, none would be affected by the project on a cumulative basis.

Development of the Nishi site would involve conversion of approximately 43.5 acres of agricultural land to non-agricultural use. This conversion of agricultural land would be mitigated at a 2:1 ratio, as required by the City of Davis' Municipal Code. However, even with adherence to City Municipal Code requirements, the project would result in a net loss of 43.5 acres of agricultural land and would be considered cumulative considerable with respect to the cumulative loss of agricultural land in the region. As a result, cumulative impacts would be **significant and unavoidable**.

5.3.3 Air Quality

SHORT-TERM CONSTRUCTION-RELATED IMPACTS

The Yolo Solano Air Quality Management District (YSAQMD) has established a significance threshold of 80 pounds per day (lbs/day) for emissions of respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}) and 10 tons per year (TPY) for emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X), which are ozone precursors. YSAQMD acknowledges that the entire Sacramento Valley Air Basin (SVAB) violates state and federal ambient air quality standards for ozone and particulate matter (PM_{10} and $PM_{2.5}$) because of the combined levels of emissions generated by sources throughout the SVAB (including but not limited to the projects listed in Table 5-1). YSAQMD considers emissions of ROG and NO_X (both ozone precursors) and PM_{10} from an individual project that exceed the applicable thresholds to be a substantial contribution to this SVAB-wide (i.e., cumulative) impact (YSAQMD 2007).

Construction-related emissions of ROG, NO_X, and PM_{10} because of development of the Nishi Gateway project would be below YSAQMD's applicable thresholds; however, NO_X emissions in the first year of construction would be almost at YSAMQD thresholds. Implementation of Mitigation Measure 4.3-1a, which includes using a minimum of Tier 3 engines during construction, would reduce NO_X emissions to below YSAQMD thresholds.

The SVAB is in nonattainment status for ozone, PM_{10}, and $PM_{2.5}$. This is a result of past cumulative development in the basin, as well as transport of pollutants from other basins. New development, including the construction of the Nishi Gateway project would be required to comply with YSAQMD measures that would reduce potential new construction emissions of criteria pollutants and precursors. As described above, the contribution of the project to regional ROG, NO_X, and PM_{10} emissions (see Section 4.3, "Air Quality"), would not be considerable because emissions from the project would be below YSAQMD's applicable thresholds, with mitigation, and these thresholds are targeted toward cumulative emissions impacts. Therefore, the project would result in a **less-than-significant** cumulative short-term construction-related emissions impact.

LONG-TERM OPERATION-RELATED IMPACTS

Because the SVAB is currently designated as a nonattainment area for ozone, PM_{10} and $PM_{2.5}$, stationary and mobile-source emissions could contribute on a cumulative basis to pollutant concentrations that exceed the ambient air quality standards because of growth in the area. This is considered to be a significant cumulative impact. As noted above, YSAQMD considers emissions of ROG and NO_X (both ozone precursors) and PM_{10} from an individual project that exceed the applicable thresholds to be a substantial contribution to this SVAB-wide (i.e., cumulative) impact (YSAQMD 2007).

As noted in Section 4.3, "Air Quality," unmitigated long-term, operational emissions would exceed YSAQMD significance thresholds for ROG, but would not exceed YSAQMD thresholds for NO_X and PM_{10} from an individual project and would not generate substantial operational emissions of $PM_{2.5}$ or toxic air contaminants (TACs). Also, long-term project operation would not result in concentrations of carbon monoxide (CO), or other criteria air pollutants that would exceed ambient air quality standards. With respect to ROG, implementation of Mitigation Measures 4.3-2a and 4.3-2b, which include measures to reduce

vehicle travel and advocates for the use of low-volatile organic compound (VOC) products, respectively, would reduce annual ROG emissions to below YSAQMD thresholds.

Residential receptors located on the Nishi site could be exposed to relatively high concentrations of diesel PM and ultrafine particulate matter (UFP) generated by vehicles traveling on I-80, which is addressed in Impact 4.3-5. This impact is associated with placing residents in proximity to sources of toxic air contaminants, and is site specific. Impacts associated with this TACs on the site would not combine with other developments to create more substantial cumulative TAC impacts; therefore, this impact is not considered cumulatively considerable.

Emissions from stationary sources for related projects would be regulated through YSAQMD's permitting process. YSAQMD's thresholds of significance are set at a level that avoids a potential conflict with air quality attainment plans, which are required to reach attainment of federal and state air quality standards. Consequently, the long-term operation of the Nishi Gateway project would not contribute to an increase in regional emissions (the projected emissions inventory for the SVAB) that would conflict with the emissions budget used by YSAQMD for regional air quality planning (i.e., YSAQMD's air quality attainment plans).

With project-specific mitigation, the Nishi Gateway project would generate emissions that are below YSAQMD thresholds for emissions from an individual project, which were established to reach attainment with air quality standards. The project's long-term operational emissions would not considerably contribute emissions which would exceed applicable air quality standards. Therefore, operational emissions generated by the project would result in a **less-than-significant** cumulative air quality impact.

5.3.4 Biological Resources

The cumulative context for biological resources impacts for the Nishi site is the area included in the proposed Yolo Natural Heritage Program (also known as the Yolo HCP/NCCP) plan area because this area supports all of the special-status species and habitats that could potentially be affected by development on the project site, contains known and major populations of many of these species, and contains important occupied and potential habitat for these species. Although in its second administrative draft, the plan is based on extensive prior study and provides a well-substantiated cumulative context for consideration of biological resources. Through development of the draft Yolo HCP/NCCP, special-status species and their habitats in the plan area have been thoroughly assessed and conservation areas have been prioritized for the maintenance of biological diversity and preservation of listed species and their habitats in the region, while allowing for development within the plan area. As noted in Section 4.4, "Biological Resources," the project site is identified as a Future Development Area in the second administrative draft of the Yolo County HCP/NCCP and it is not identified as an area important for conservation.

Past development in the region, ranging from conversion of natural land to agricultural production more than a hundred years ago to recent expansion of urban development, has resulted in a substantial loss of native habitat to other uses. This land conversion has benefited a few species, such as those adapted to agricultural uses, but the overall effect on native plants, animals, and habitat has been decidedly negative. Implementation of the Yolo HCP/NCCP, if adopted, would provide habitat conservation and avoidance and minimization measures to preserve biological diversity and provide a framework for development that would not be likely to jeopardize the continued existence of covered species. The Yolo HCP/NCCP would lessen site-specific and cumulative impacts of development by replacing project-by-project mitigation with comprehensive, long-term strategies for conserving, protecting, and maintaining viable populations of covered species and natural habitats. If the Yolo HCP/NCCP is not adopted, many future projects proposed in the region would be required to mitigate substantial impacts to biological resources in compliance with the federal Endangered Species Act, the California Endangered Species Act, and other federal, state, and local statutes. However, this mitigation would continue to occur on a project-by-project basis with no coordinated strategy for ensuring long-term conservation and species viability on a regional scale. Therefore, without adoption of the Yolo HCP/NCCP, it can be expected that the net loss and degradation of native

habitat for plants and wildlife, agricultural lands, and open space areas that support important biological resources in Yolo County will continue as residential and urban development continues. This would be a significant cumulative biological resource impact.

Development of the Nishi Gateway project could result in potentially significant impacts on special-status plants (i.e., California black walnut); Swainson's hawk, burrowing owl, and other nesting raptors; loggerhead shrike and migratory birds; and waters of the U.S, state, and California Department of Fish and Wildlife jurisdictional areas. However, these potential impacts would be mitigated to less-than-significant levels with implementation of the mitigation measures described in Section 4.4, "Biological Resources." Furthermore, the Nishi site consists of low-quality, disturbed habitat surrounded by existing development and has low potential to support special-status species. It is unlikely that large or important populations of any special-status species exist on the Nishi site or within the urban portion of the West Olive Drive and no high-quality habitat important to the long-term conservation of any species in the region is present on the project site. Therefore, the project's incremental contribution to the cumulative impact on special-status species in the region would not be considerable.

Cumulative development could result in potentially significant biological resource impacts. However, with implementation of the mitigation measures proposed for the Nishi Gateway project, the project's contribution to these impacts would be reduced to a less-than-significant level. Therefore, while the overall cumulative condition is adverse, the project's contribution to cumulative biological resource impacts would not be considerable, and the project would have a **less-than-significant** cumulative biological resource impact.

5.3.5 Cultural Resources

The cumulative context for the cultural resources analysis considers a broad regional system of which the resources are a part. The cumulative context for historical resources is the City of Davis where common patterns of historic-era settlement have occurred over roughly the past century. The cumulative context for archaeological resources and human remains is the former territory of the Southern Wintun, or Patwin. River Patwin occupied the west side of the lower Sacramento River below the mouth of the Feather River and the lower reaches of Cache Creek and Putah Creek in the Sacramento Valley. The cumulative context for paleontological resources is the Great Valley Province, which is a long, narrow northwest-trending alluvial valley that lies between the Sierra Nevada Range to the east and the Coast Ranges to the west.

The project, in combination with other development in the region, could cause a substantial adverse change in the significance of an historical resource or unique archaeological resource. However, no known historical, archaeological, or paleontological resources are located within the boundaries of the project site. The Davis Subway, a structure that is listed on the National Register of Historic Places (NRHP), is located proximate to the project site and other related projects, including the Richards Blvd. Interchange Improvements (Related Project No. 12), Embassy Suites (Related Project No. 8), and Shell Station (Related Project No. 7), however none of these projects, including the proposed project would involve modifications to the Davis Subway or approach within 50 feet of the existing NRHP-listed structure. As a result, cumulative impacts would not occur. Nonetheless, project-related earth-disturbing activities could potentially damage undiscovered archaeological resources, human remains, or paleontological resources. Implementation of Mitigation Measures 4.5-1 and 4.5-2 would ensure that the project's contribution would not be cumulatively considerable by requiring construction work to cease in the event of an accidental find and requiring evaluation/treatment of the potential resource.

Cumulative development could result in potentially significant cultural resource impacts. However, with implementation of the mitigation measures proposed for the Nishi Gateway project, the project's contribution to these impacts would be reduced to a less-than-significant level. Therefore, the project's contribution to cumulative cultural resource impacts would not be considerable and the project would have a **less-than-significant** cumulative cultural resource impact.

5.3.6 Geology, Soils, and Mineral Resources

Geotechnical impacts are site-specific rather than regional in nature and any development occurring within the Davis area would be subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region, such as the California Building Code standards. Therefore, cumulative geology and soils impacts would be **less than significant** and are not addressed further.

5.3.7 Greenhouse Gas Emissions, Climate Change, and Energy

Climate change is an inherently cumulative issue. The quantity of greenhouse gas (GHG) emissions required to induce climate change is not precisely known; however, it is clear that the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climate. The analysis of GHG emissions and climate change that is provided in Section 4.7, "Greenhouse Gas Emissions" of this EIR, is considered to address both project-specific and cumulative impacts.

5.3.8 Hazards and Hazardous Materials

Although some hazardous materials releases can cover a large area and interact with other releases (e.g., atmospheric contamination, contamination of groundwater aquifers), incidents of hazardous materials contamination are more typically isolated to a small area, such as leaking underground storage tank sites or release at individual businesses. These relatively isolated areas of contamination typically do not interact in a cumulative manner with other sites of hazardous materials contamination. However, if the project would create a new site of contamination, or contribute substantially to a hazardous condition in the general project area, it could be considered to contribute to a cumulative impact. Impacts related to emergency vehicle access and response are considered site specific and not cumulatively considerable.

There is no contamination documented on the project site. With implementation of the recommended mitigation measures, additional study of the Nishi site would be required (Mitigation Measure 4.8-2a), a contingency plan would be in place to address any unanticipated contamination identified during construction (Mitigation Measure 4.8-2b), a well abandonment permit would be obtained and its contents complied with (Mitigation Measure 4.8-2c), abatement of potentially hazardous building materials in the West Olive Drive area would occur (Mitigation Measure 4.8-2d), and a construction traffic control plan would be in place to address potential conflicts with emergency access or evacuation routes during construction (Mitigation Measure 4.14-7 in Section 4.14, "Transportation and Circulation"). The provision of emergency vehicle access points to and from the project site is considered site-specific and not cumulatively considerable as it pertains specifically to the ability of emergency vehicles to respond to calls generated at the project site. Although the transport, storage, and use of hazardous materials would occur as part of project construction and operation, existing federal, state, and local hazardous materials regulations would apply, limiting the potential for releases and contamination and requiring clean-up when releases/contamination do occur.

Future projects would add further businesses and land uses that may use, store, and generate hazardous materials (e.g., Shell Station project); however, these entities would be subject to the same hazardous materials regulations. Further, these projects would be required to implement project-specific mitigation (similar to the Nishi Gateway project), consistent with applicable laws and regulations related to the transport, use, and disposal of hazardous materials, to reduce any significant hazardous materials impacts. Given these conditions, there is not a significant cumulative impact related to hazardous materials from past, present, and reasonably foreseeable future projects.

Given the limited potential for hazardous materials contamination to occur as a result of the Nishi Gateway project, the legal requirements to clean up any releases, and the limited potential for any project generated contamination to interact on a cumulative basis with other incidents of contamination, the project (with implementation of Mitigation Measures 4.8-2a through 4.8-2d) would not make a significant contribution to a significant cumulative impact related to hazardous materials. Therefore, this would be a **less-than-significant** cumulative impact.

5.3.9 Hydrology and Water Quality

WATER QUALITY

Overall water quality in the region has degraded over time as natural habitat has been converted to urban uses, and these uses have resulted in runoff of various pollutants into local and regional waterways. A variety of programs have been implemented with the goal of halting degradation of water quality and reversing this trend. Several state and federal agencies are involved in these programs, many of which are required by or originate in the federal Clean Water Act. Nonetheless, a cumulative adverse water quality condition exists.

Construction at the Nishi site would result in surface disturbance through ground scraping, grading, trenching, and compaction associated with typical development activities. Existing vegetation would be removed thereby increasing the potential for erosion. Operational activities and proposed land uses (e.g., roadways) would generate atmospheric pollution, tire-wear residues, petroleum products, and oil and grease which would be carried into stormwater runoff. These constituents could enter the storm drainage system and adversely affect water quality. However, a storm water pollution prevention plan (SWPPP) that would include site-specific best management practices (BMPs) and any other necessary site-specific Waste Discharge Requirements (WDRs) or waivers under the Porter-Cologne Act would be prepared for each project to sufficiently reduce the potential surface water quality impacts during construction. In accordance with federal and state stormwater regulations, new construction projects must maintain pre-project hydrology and incorporate proper pollutant source controls, minimize pollutant exposure outdoors, and treat stormwater runoff through proper post-construction BMPs when source control or exposure protection are insufficient for reducing pollutant loads. Specifically, the project would be required to incorporate low impact development site design, source control, stormwater treatment, and regular maintenance of stormwater system components to comply with the City of Davis stormwater quality management standards and maintain the site's pre-project levels of stormwater runoff.

Water quality regulations require implementation of construction and post-construction site specific BMPs and water quality protection measures. Therefore, the construction and operation of the Nishi Gateway project and the construction and operation of related projects would reduce site-specific water quality impacts such that cumulatively adverse hydrology and water quality impacts would not occur. The project would not have a considerable contribution such that a new significant cumulative impact would occur. The cumulative impact would be **less than significant**.

STORMWATER DRAINAGE

Development of the Nishi Gateway project in combination with development of related projects would result in the addition of impervious surfaces, which could increase stormwater runoff. However, in accordance with federal and state stormwater regulations, new construction projects must maintain pre-project hydrology and incorporate proper pollutant source controls, minimize pollutant exposure outdoors, and treat stormwater runoff through proper post-construction BMPs when source control or exposure protection are insufficient for reducing pollutant loads. Therefore, before any construction-related ground disturbance, final drainage plans would be required to demonstrate that all runoff would be appropriately conveyed and would not leave the project sites at rates exceeding pre-infill site runoff conditions. Therefore, this would be a less-than-significant cumulative impact.

Specifically at the Nishi site, as required by Mitigation Measure 4.9-3a, the project's SWPPP must include provisions to accommodate the existing volume of upstream drainage flows from the I-80 right-of-way and the 58-acre section of the UC Davis campus west of the project area to minimize the risk of backwater conditions or flooding on upstream properties. In combination with the City of Davis stormwater management regulations, this measure would reduce potential drainage and runoff impacts associated with the Nishi site.

In accordance with federal and state stormwater regulations, new construction and substantial redevelopment projects must maintain pre-project hydrology and incorporate proper pollutant source controls. Therefore, the residential development at the Nishi site would provide adequate stormwater drainage facilities to accommodate stormwater runoff demands, and other cumulative projects would be required to provide adequate stormwater facilities. Therefore, the development of the Nishi Gateway project would not make a considerable contribution to cumulative stormwater drainage impacts such that a new cumulative impact would occur. The cumulative impact would be **less than significant**.

5.3.10 Land Use and Planning

No existing or reasonably foreseeable land use impacts were identified as a result of development of the Nishi site because it would not physically divide a community or conflict with any policies adopted for the purpose of avoiding environmental or agricultural impacts. While development of the Nishi site in combination with the related projects would result in land use changes, such changes are generally consistent with the goals and policies found in the City's and County's General Plan. Further, the General Plan land use and zoning designations for the site would be amended to resolve any inconsistencies between development and existing designations, and the project would comply with the requirements associated with those amendments and new designations. Therefore, cumulative land use impacts would be less than significant.

Development of the Nishi site would not result in any land use impacts (physically divide a community or violate a policy intended to avoid a significant environmental impact), and would be consistent with relevant policies of state and local jurisdictions. Therefore, the project would not have a considerable contribution to cumulative land use impacts and would, therefore, result in **less-than-significant** cumulative land use impacts.

5.3.11 Noise and Vibration

As described in Section 4.11, "Noise and Vibration," of this EIR, noise is a localized occurrence and attenuates with distance. For construction and stationary source impacts, only the immediate area around a site would be included in the cumulative context. For example, construction and stationary source impacts related to noise dissipate/attenuate quickly as the distance between the site and the receptor increases.

CONSTRUCTION-GENERATED NOISE AND VIBRATION

Construction activities associated with the project would result in less-than-significant site-specific noise impacts and would not otherwise expose offsite receptors to significant construction noise. City noise regulations limit construction activities to daytime hours, and noise levels are not directly additive and attenuate rapidly with distance. No projects shown in Figures 5-1 or 5-2 are located close enough (i.e., 1,000 feet) to the project site with similar construction periods such that they could combine with construction noise from development at the project site. Therefore, the project would not be cumulatively considerable and impacts are less than significant.

Construction at the project site would also produce temporary vibration. However, the construction vibration impact of the project would be less than significant because of the types of equipment and construction activities, combined with the distance between source and receptors. Potential cumulative construction vibration impacts are considered extremely localized (less than 250 feet) and no cumulative projects or

receptors are located within 250 feet of the project site. As such, construction vibration at the project site would not be considered cumulatively considerable and impacts would be less than significant.

OPERATIONAL NOISE AND VIBRATION

As described in Section 4.11, "Noise and Vibration," operational noise levels associated with operation of the project would not result in noise levels that exceed applicable exterior or interior noise compatibility standards. Further, as noted in Section 4.11, on-site residential receptors may be subject to substantial instantaneous noise associated with rail operations along the existing UPRR right-of-way. However, the project, in and of itself, would not increase rail traffic along the existing UPRR line and would not be considered cumulatively considerable. As such, operation of the proposed development would not be considered cumulatively considerable such that noise levels may exceed applicable noise compatibility standards. Therefore, the development would not result in a considerable contribution to operational noise impacts.

Future traffic noise levels were modeled using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model and are presented in Section 4.11, "Noise and Vibration." Substantial permanent increases (i.e., greater than 3 A-weighted decibels [dBA]) in roadway noise levels would not occur at any of the study roadway segments, and no significant cumulative impacts are anticipated. Further, the anticipated increase that would occur would largely result from increased traffic generated by other local development.

Development of the project would not result in a considerable contribution to cumulative construction, vibration, or on-site operational noise impacts. The project would not result in noise levels that would cumulatively combine with other cumulative projects such that they would exceed state construction or operational noise compatibility standards. Further, the development, in combination with cumulative development, would not result in a substantial increase in traffic noise along roadways. Therefore, the project would not result in a considerable contribution such that a new significant cumulative noise impact would occur and cumulative noise impacts would be **less than significant**.

5.3.12 Population and Housing

As described in Section 4.12, "Population and Housing," Yolo County, including the City of Davis, is projected to experience cumulative population growth (see Table 4.12-4 for projected 2035 populations of these jurisdictions). This population growth is regulated and monitored by each respective jurisdiction, including the City of Davis through its Housing Element and growth projections. Ample housing exists throughout the region (see Table 4.12-2), and as shown in Table 5-2 above, several of the cumulative projects would result in construction of new residential units in Davis (including Tercero Student Housing Phase 4 [student housing], Mission Residences [2 single-family residences and 14 condominiums], Families First [150 apartments], and the Yackzan Project [3 apartments]) that would accommodate anticipated population growth. Development of the Nishi site with additional residential units was accounted for in the City's 2014 Housing Element as a way of addressing housing needs within the City. The City's Housing Element established a development potential for the Nishi site of 460 - 1,000 residential units (Davis 2014).

With respect to induced growth as a result of additional employment opportunities, up to approximately 1,500 jobs could be created as a result of operation of the project, including 854 associated with the proposed research and development and retail uses at the Nishi site. Additionally, between 93 and 550 new jobs could be created within West Olive Drive. As noted in Section 4.12, "Population and Housing," information collected by the US Census Bureau states that the majority of people working within Davis are from surrounding communities, and the majority of residents travel outside of Davis to their employer. This indicates a demand for more jobs and housing within the City to provide for more opportunities. Employment opportunities associated with the cumulative projects identified in Table 5-2, primarily the Mace Ranch Innovation Center and Davis Innovation Center with approximately 16,900 potential jobs between the two, would also respond to this demand. For these reasons, the population and housing impacts related to development of the Nishi Gateway project would not result in a considerable contribution to cumulative population and housing impacts.

Development of the Nishi Gateway Project would result in population growth that would be indistinguishable from projected local growth. This would be a **less-than-significant** cumulative impact.

5.3.13 Public Services and Recreation

Under existing conditions, public services are provided in the project area by multiple agencies, including the City of Davis Police Department (police protection), City of Davis Fire Department (fire protection and emergency services), Davis Joint Unified School District (schools), and the City of Davis and UC Davis (parks and recreational facilities). Cumulative development in the region, including development of the Nishi Gateway project, would result in the concentration of persons and structures within these local public service jurisdictions and could increase demands for such services. Although the Nishi Gateway project would also increase demand for public services, no additional facilities would be needed to serve the project site and the project would be required to pay impact fees as required by the City to ensure the adequate provision of public services in the future. Therefore, the project would not result in a cumulatively considerable contribution such that a significant cumulative public services impact would occur. Therefore, cumulative impacts to public services would be **less than significant**.

5.3.14 Transportation and Circulation

This section presents the results of the cumulative traffic analysis prepared for the project by Fehr & Peers. Generally, the cumulative operations analysis evaluates:

- a.m. and p.m. peak hour roadway segment volumes and capacities to assess the impacts of the project relative to future cumulative conditions (i.e., 2035 No Project and 2035 With Project);
- a.m. and p.m. peak hour intersection operations within the Richards Boulevard Interchange area for Cumulative and Cumulative Plus Project scenarios; and
- a.m. and p.m. peak hour freeway volumes, vehicle densities and level of service for Cumulative and Cumulative Plus Project scenarios.

It is noted that the roadway segment method for cumulative impact assessment for most of the study area was chosen over intersection analysis for several reasons.

- CEQA indicates that the discussion of cumulative impacts "shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great a detail as is provided for the effects attributable to the project alone. The discussion shall be guided by standards of practicality and reasonableness…"
- The nature of travel forecasting includes uncertainty about future events that are difficult to predict (i.e., the great recession). As such, the further into the future we try to predict the more it is desirable to aggregate to provide reasonable forecasts and analysis. This is especially true for the local roadway network, given that there are multiple routes that a resident or employee could choose to take if traveling from the project to the remainder of Davis (i.e., Fifth Street, B Street, F Street, Third and Second Streets, Cowell Boulevard, Research Park Drive, Drummond Avenue, and Lillard Drive).
- The cumulative forecasts are prepared for year 2035 conditions and assume full development of the Nishi Gateway project, the Mace Ranch Innovation Center (Mace IC), Davis Innovation Center (Davis IC), and Hotel/Conference Center projects as well as the increment of development projected to occur in Davis based on the SACOG MTP/SCS.

- Analyzing road segments is sufficient to determine how many lanes are required (i.e., two or four) on the segment and how much right-of-way to preserve at connecting intersections.
- Forecasts are developed and evaluated for intersections at and immediately adjacent to the I-80/Richards Boulevard interchange because there is essentially only a single route between I-80 and the project.

STUDY AREA

Figure 4.14-3 in Section 4.14, "Transportation and Circulation," shows the local freeway and roadway segment locations evaluated for the cumulative traffic scenarios. The study roadway segments cover a larger study area, including key roadways throughout the City of Davis and several County roadways, because the cumulative (2035) analysis includes growth throughout Davis, including the concurrently studied Mace IC and Davis IC projects.

METHODOLOGY

Roadway Segment Operations

Roadway segment operations were assessed for the cumulative traffic scenarios using Level of Service thresholds for peak hour volumes. Roadway capacities for the different roadway types in the study area were developed using the roadway capacity methodology presented in the *2010 Highway Capacity Manual*, which defines peak hour capacities based on features including number of lanes, design speed, intersection spacing, horizontal and vertical curvature, and other factors. Table 5-3 presents the capacities developed for the roadway segment analysis, using the characteristics of Davis roadways in each category.

Table 5-3 Roadway Segment LOS Definitions

Functional Classification	LOS volume not to exceed (vph)		
	C	D	E
4-Lane Major Arterial	3,170	4,400	4,770
2-Lane Major Arterial	1,370	1,650	1,780
2-Lane Minor Arterial	1,030	1,450	1,750
Collector	660	920	1,110
Local Street	360	510	610

Source: Developed by Fehr & Peers for Davis roadway characteristics using the 2010 HCM methodology.

Intersection Operations within the Mace Boulevard Interchange Area

The analysis methodology used is the same as presented in Section 4.14, "Transportation and Circulation."

Freeway Operations

The analysis methodology used is the same as presented in Section 4.14, "Transportation and Circulation."

Travel Forecasting

Intersection and roadway traffic forecasts for the cumulative scenarios were developed using the City of Davis travel demand model, which is a focused four-step model with a much more detailed roadway network than the regional model developed by SACOG. The land use forecasts for both the base year and horizon year for the City model were updated by Fehr & Peers for this evaluation. The base year land use for the City model was updated to reflect 2008 conditions, which is the same base year for the regional travel model developed by SACOG, to reflect the current version of the Metropolitan Transportation Plan/Sustainable Communities Plan (MTP/SCS). The horizon year land use for the City of Davis travel model was then updated to reflect 2035 conditions, which is also the current MTP/SCS horizon year. The 2035 horizon year land use

for the City model was developed by adding the land use growth reflected in the MTP/SCS model, between 2008 and 2035, to the new 2008 City base year land use.

Based on consultation with SACOG and City of Davis staff, it was determined that the additional employment associated with the project (which is not included in the MTP/SCS land use forecasts) as well as the cumulative Mace IC and Davis IC projects, would result in a reallocation of regional employment (i.e., from other parts of the region to the City of Davis), rather than an increase over 2035 employment forecasts for the Sacramento region. The SACOG MTP/SCS forecasts the addition of 2,230 new office and industrial employees in the City of Davis by 2035. To determine the impact of the project on regional employment allocation and assess where new future employees are likely to live, an economic assessment was prepared and is documented in the *City of Davis Economic Evaluation of Innovation Park Proposals* (Bay Area Economics, March 2015).

The Cumulative No Project scenario for the project includes the growth anticipated in the MTP/SCS as well as the proposed Davis IC, Mace IC, and Hotel-Conference Center development projects. Intersection and roadway volumes were developed using the difference method procedure, which adds the growth in traffic between the 2008 base year and the Cumulative No Project forecasts to existing volumes.

The Cumulative Plus Project scenario was developed by adding the proposed project land use to the city model and adjusting the city model gateways to reflect the household location of new future employees as identified in the economic evaluation described above. Intersection and roadway volumes were developed using the difference method procedure, which adds the growth in traffic between the base year and the Cumulative Plus Project forecasts to existing volumes.

The travel model assigns most of the external vehicle trips generated by the project to the I-80/Richards Boulevard interchange given the proximity of the interchange to the project. For project Access Scenario 1, which includes a new connection to the UC Davis campus, some external project trips from the Nishi Gateway project will use the I-80/Old Davis Road interchange. Some vehicle trips generated by the campus will use the new connector and the internal Nishi project streets to access the I-80/Richards Boulevard interchange as an alternate route to using First Street through Downtown Davis.

INTERSECTION OPERATIONS

Tables 5-4 and 5-5 show the traffic simulation (LOS) results for the Richards Boulevard interchange area, the first for Access Scenario 1 and the second for Access Scenario 2.

In the Cumulative without Project case, several intersections are projected to operate at LOS F. With the addition of project-related traffic, service levels would deteriorate further. Using the criteria presented under standard of significance #1, several significant impacts are identified at intersections within and immediately adjacent to the Richards Boulevard/I-80 interchange area.

Access Scenario 1 (two project access points)

The provision of a second access point included in Access Scenario 1, from the Nishi Gateway Project to the UC Davis campus, provides a direct connection between the project and campus. It also provides an alternative route for both project and campus vehicle trips to I-80. Project trips would have a viable route to the I-80/Old Davis Road interchange through campus, and campus trips would have an alternative route (i.e., to using First Street through Downtown Davis) to travel to the I-80/Richards Boulevard interchange.

The new connection between the Nishi Gateway Project and the UC Davis campus has other benefits to the transportation system. The new connection provides an alternate route for Unitrans to operate between the UC Davis campus and South Davis. The existing Richards Underpass has vertical clearance limitations such that Unitrans can't operate their taller buses on routes to South Davis traveling along Richards Boulevard. The new underpass connecting the Nishi Gateway Project and UC Davis, under the Union Pacific Railroad, would provide standard vertical clearance and accommodate all Unitrans buses.

The new connection would provide an alternate route for cyclists and pedestrians traveling between campus, the Nishi Gateway project, and South Davis. It would also provide an alternate route for emergency vehicles, when the Richards Boulevard underpass is congested. Lastly, it would provide an alternate route for evacuation in case of future emergencies at the Nishi Gateway project site, on the UC Davis campus, in Downtown Davis, and in the West Olive commercial area.

Forecast cumulative volumes on First Street in Downtown Davis are lower with Access Scenario 1 than they are with Access Scenario 2 as a result of the new connection. This is because of the fact that some UC Davis campus traffic shifts from First Street, to the new connection and West Olive Drive, in their trips to and from I-80 and South Davis. The result is lower congestion levels along First Street between B and E Streets, when compared with Access Scenario 1. Congestion levels along Richards Boulevard, between Olive Drive and Research Park Drive, are slightly higher than Access Scenario 2 (particularly in the AM peak hour), because of the effects of higher left turn demand from northbound Richards Boulevard onto westbound Olive Drive as traffic that would otherwise use the Richards Boulevard tunnel shifts to the West Olive Drive Extension and the new campus connection.

For Access Scenario 1, the following intersections are significantly impacted in the Cumulative Plus Project case, based on standard of significance #1 identified in Chapter 4.14 of this EIR:

1. Richards Boulevard/Private Driveways (Caffe Italia/Hotel, Shell/In-and-Out)
2. Richards Boulevard/I-80 Westbound Ramps
3. Richards Boulevard/I-80 Eastbound Ramps
4. Richards Boulevard/Research Park Drive

Table 5-4 Cumulative Plus Project Access Option 1 - Peak Hour Intersection Operations Richards Boulevard / I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Cumulative No Project				Cumulative Plus Project Access Option 1			
				a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
				Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
20	First Street/D Street	Signal	City of Davis	22	C	91	F	17	B	88	F
21	First Street/E Street	Signal	City of Davis	39	D	64	E	44	D	71	E
22	First Street/F Street	3-Way Stop	City of Davis	15	B	95	F	77	E	125	F
25	Richards Blvd/Olive Drive	Signal	City of Davis	60	E	62	E	81	F	64	E
26	Richards Blvd/Private Driveway	SSSC	City of Davis	34	D	32	D	82	**F**	174	**F**
27	Richards Blvd/WB I-80 Ramps	Signal	City of Davis	48	D	13	B	96	**F**	**86**	**F**
28	Richards Blvd/EB I-80 Ramps	Signal	City of Davis	80	**F**	77	E	158	**F**	**151**	**F**
29	Richards Blvd/Research Park Dr	Signal	City of Davis	73	E	97	**F**	104	**F**	143	**F**

Notes: **Bold** – LOS below standard. Shading indicates significant impact. While LOS at Richards Boulevard/Olive Drive would be LOS F, the City, as established in the General Plan, considers LOS F at this intersection to be acceptable.

[1] Delay is reported in seconds per vehicle for the overall intersection for signalized intersections. Delay is reported in seconds per vehicle for the worst movement for unsignalized/uncontrolled intersections.

An evaluation of the two intersections internal to the project site, at West Olive Drive Extension/Project Garage Access East and West Olive Drive Extension/Project Garage Access West, concluded that all-way stop controls or roundabouts at those intersections would adequately accommodate cumulative traffic volumes with Access Scenario 1.

The new intersection of Old Davis Road/New Connector would not operate at acceptable levels with stop controls. A roundabout or traffic signal would be required to serve cumulative volumes. The new West Olive Drive/West Olive cul-de-sac intersection, located approximately 350 feet west of the Richards Boulevard/Olive

Drive intersection, would not operate at acceptable levels with stop controls. The intersection would exceed the peak hour traffic signal warrant under cumulative conditions with Access Scenario 1.

In summary, the project's incremental increase in traffic to study intersections with Access Scenario 1, in combination with traffic from cumulative development, would be considered cumulatively considerable, and impacts would be **significant**.

Access Scenario 2 (one project access point)

Under Access Scenario 2, all of the Nishi Gateway project trips and trips generated by new development in the West Olive Area would use West Olive Drive as the sole access connection to Richards Boulevard. Access to I-80 would be exclusively via the I-80/Richards Boulevard interchange.

Cumulative traffic volumes through the Richards Boulevard tunnel and along First Street in Downtown Davis would be higher with Access Scenario 2 than Access Scenario 1. Conversely, vehicle traffic levels on West Olive Drive and the West Olive Drive Extension would be lower under Access Scenario 2 because the roadways would serve only trips generated by development on the Nishi site and in the West Olive Drive area. The campus trips that would use West Olive Drive as an alternate route under Access Scenario 1 would use First Street under Access Scenario 2.

An evaluation of the two intersections internal to the Nishi Gateway Project site, at West Olive Drive Extension/Project Garage Access East and West Olive Drive Extension/Project Garage Access West, concluded that all-way stop controls or roundabouts at those intersections would adequately accommodate cumulative traffic volumes with Access Scenario 2.

The new West Olive Drive/West Olive cul-de-sac intersection, located approximately 350 feet west of the Richards Boulevard/Olive Drive intersection, would operate at acceptable levels with stop controls. The intersection would not exceed the peak hour traffic signal warrant under cumulative conditions with Access Scenario 2.

In summary, the project's incremental increase in traffic to study intersections with Access Scenario 2, in combination with traffic from cumulative development, would be considered cumulatively considerable, and impacts would be **significant**.

Table 5-5 Cumulative Plus Project Access Option 2 - Peak Hour Intersection Operations Richards Boulevard / I-80 Interchange Area

No.	Intersection	Control	Jurisdiction	Cumulative No Project				Cumulative Plus Project Access Option 2			
				a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
				Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
20	First Street/D Street	Signal	City of Davis	22	C	91	F	21	C	107	F
21	First Street/E Street	Signal	City of Davis	39	D	64	E	40	D	67	E
22	First Street/F Street	3-Way Stop	City of Davis	15	B	95	F	25	C	100	F
25	Richards Blvd/Olive Drive	Signal	City of Davis	60	E	62	E	66	E	63	E
26	Richards Blvd/Private Driveway	SSSC	City of Davis	34	D	32	D	62	**F**	170	**F**
27	Richards Blvd/WB I-80 Ramps	Signal	City of Davis	48	D	13	B	63	E	72	E
28	Richards Blvd/EB I-80 Ramps	Signal	City of Davis	80	**F**	77	E	77	E	145	**F**
29	Richards Blvd/Research Park Dr	Signal	City of Davis	73	E	97	**F**	69	E	141	**F**

Notes: **Bold** – LOS below standard. Shading indicates significant impact. While LOS at Richards Boulevard/Olive Drive would be LOS F, the City, as established in the General Plan, considers LOS F at this intersection to be acceptable.

[1] Delay is reported in seconds per vehicle for the overall intersection for signalized intersections. Delay is reported in seconds per vehicle for the worst movement for unsignalized/uncontrolled intersections.

Mitigation Measures

The intersection of First Street/F Street is located in Downtown Davis, where LOS F conditions are not deemed to be significant. Congestion at this intersection can result in queues that would back up into the Richards Boulevard tunnel and impact congestion levels at the Richards Boulevard/I-80 interchange. As such, mitigations are identified at this intersection to alleviate the effect on adjacent intersections that exceed the City's LOS E threshold (for intersections outside the Downtown Davis core or Richards Boulevard corridor).

The following mitigation measures apply to both Access Scenario 1 and 2.

Implement Mitigation Measure 4.14-2 (Roadway and Intersection Improvements at the Richards Boulevard Interchange).

Mitigation Measure 5.14-1a: Improvements to the First Street/F Street intersection are not currently included in the City's transportation development fee program. The project applicant shall fund a City-administered engineering analysis to determine a probable estimate of costs and a fair share of the improvements. The City of Davis shall include the project in the development fee program. The project applicant shall contribute appropriate fees for the design and construction of the installation of a traffic signal at the First Street/F Street intersection and the widening of the eastbound lane on First Street, from E Street to just east of F Street, to provide a dedicated eastbound left turn lane and eastbound through lane. Alternately, the left turn movement from eastbound First Street onto northbound F Street could be prohibited, requiring eastbound traffic on First Street to continue on to G Street.

The following mitigation measures apply to Access Scenario 1 only.

Mitigation Measure 5.14-1b: The project applicant shall contribute appropriate fees for the design and construction of the installation of a single lane roundabout, or equivalent measure, at the intersection of Old Davis Road/New Connector Street on the UC Davis campus. The improvement shall be constructed concurrent with completion of the new underpass and roadway that would connect the Nishi Gateway project and the UC Davis campus. The improvement design shall be reviewed and approved by UC Davis staff and the Davis Public Works Department before implementation.

Mitigation Measure 5.14-1c: The project applicant shall contribute appropriate fees for the design and construction of the installation of a traffic signal at the West Olive Drive/West Olive cul-de-sac intersection located approximately 350 feet west of the Richards Boulevard/Olive Drive intersection.

With implementation of Mitigation Measure 5.14-1a, 5.14-1b, and 5.14-1c, all intersections would operate at LOS E or better conditions, with the exception of the First Street/D Street intersection that would operate at LOS F conditions. The delays at the First Street/D Street intersection, with implementation of Mitigation Measure 5.14-1, would be equivalent to the delays with the Cumulative No Project scenario. Further, LOS F conditions are acceptable at this location based on the General Plan. However, as noted in Section 4.15, "Transportation and Circulation," implementation of Mitigation Measure 4.14-2 requires Caltrans approval and cannot be assured. Further, implementation of Mitigation Measure 5.14-1b requires UC Davis approval and also cannot be assured. As a result, impacts would be **significant and unavoidable**.

ROADWAY SEGMENT OPERATIONS

Tables 5-6 and 5-7 present the cumulative roadway segment volumes for the Cumulative No Project and Cumulative with Project cases in the local study area.

It should be noted that the amount and location of new development in both cases results in different travel route choices, which leads to volume growth on many roadways and volume drops on some roadways.

Table 5-6 Cumulative Roadway Segment Levels of Service – Access Scenario 1

Roadway Segment	Segment ID	Jurisdiction	Capacity	AM				PM			
				Cumulative No Project		Cumulative With Project - Access Scenario 1		Cumulative No Project		Cumulative With Project – Access Scenario 1	
				Total Volume	LOS	Total Volume	LOS	Total Volume	LOS	Total Volume	LOS
1st Street E of D Street	44	City Core	1,780	1020	C	790	C	1230	C	1040	C
1st Street E of E Street	45	City Core	1,780	400	C	380	C	1150	C	1260	C
2nd Street E of Pena Drive	37	City	1,750	1410	D	1350	D	1690	E	1740	E
3rd Street E of B Street	36	City Core	610	880	F	880	F	1330	F	1390	F
5th Street W of Pole Line Road	33	City	4,770	1220	C	1210	C	1340	C	1470	C
8th Street E of F Street	23	City	1,750	810	C	800	C	790	C	830	C
Alhambra Drive S of Covell Boulevard	20	City	1,750	560	C	470	C	380	C	380	C
Alhambra Drive W of Mace Boulevard	22	City	1,110	840	D	810	D	800	D	760	D
Anderson Road N of Covell Boulevard	3	City	1,750	540	C	520	C	630	C	720	C
Anderson Road N of Russell Boulevard	25	City	1,750	1190	D	1110	D	1050	D	1050	D
Anderson Road S of Covell Boulevard	15	City	1,750	850	C	760	C	790	C	840	C
La Rue Road S of Russell Boulevard	34	UCD	4,770	1530	C	1640	C	2230	C	2240	C
B Street N of Russell Boulevard/ 5th Street	26	City	1,750	520	C	490	C	560	C	610	C
Chiles Road E of Mace Boulevard	40	City	1,750	820	C	810	C	1070	D	1170	D
Chiles Road W of Cowell/EB 80 Off	39	City	1,750	980	C	1000	C	1010	C	1010	C
County Road 31 E of County Road 98	6	Yolo	1,780	820	C	840	C	900	C	1100	C
County Road 32A E of Mace Boulevard	38	Yolo 32A	1,750	550	C	550	C	900	C	950	C
County Road 99D S of County Road 29	1	Yolo	1,750	750	C	800	C	880	C	790	C
Covell Boulevard E of Denali Drive	7	City	1,780	880	C	890	C	1910	F	2050	F
Covell Boulevard, E of F Street	9	City	4,770	2430	C	2490	C	2540	C	2540	C
Covell Boulevard E of Harper High	11	Yolo	1,780	1200	C	1190	C	1440	D	1380	D
Covell Boulevard E of Monarch Lane	10	City	4,770	1570	C	1550	C	1660	C	1590	C
Covell Boulevard W of Anderson Road	8	City	4,770	2020	C	1900	C	2200	C	2190	C
Cowell Boulevard W of Mace Boulevard	49	City	1,750	640	C	640	C	650	C	750	C
E Street N of 1st Street	43	City Core	610	630	F	550	E	770	F	780	F
F Street N of 5th Street	27	City	1,750	460	C	440	C	730	C	710	C

Table 5-6 Cumulative Roadway Segment Levels of Service – Access Scenario 1

Roadway Segment	Segment ID	Jurisdiction	Capacity	AM				PM			
				Cumulative No Project		Cumulative With Project - Access Scenario 1		Cumulative No Project		Cumulative With Project – Access Scenario 1	
				Total Volume	LOS	Total Volume	LOS	Total Volume	LOS	Total Volume	LOS
F Street N of Covell Boulevard	4	City	1,750	740	C	730	C	720	C	720	C
F Street S of Covell Boulevard	17	City	1,750	810	C	900	C	940	C	950	C
Hutchison Drive W of Health Science Drive	41	UCD	4,770	1760	C	1760	C	1870	C	1900	C
John Jones Road N of Covell Boulevard	2	City	1,750	2090	**F**	2120	**F**	1710	E	1810	**F**
L Street S of Covell Boulevard	18	City	1,110	630	C	700	D	590	C	580	C
Lake Boulevard S of Covell Boulevard	12	City	1,750	700	C	680	C	670	C	630	C
Loyola Drive E of Pole Line Road	21	City	1,110	330	C	350	C	430	C	450	C
Mace Boulevard S of El Macero Drive	50	City	1,780	250	C	250	C	380	C	360	C
Oak Ave S of Covell Boulevard	16	City	1,110	690	D	610	C	700	D	660	C
Old Davis Road N of I-80	46	UCD	1,750	1400	D	1380	D	1520	E	1350	D
Old Davis Road S of Hutchison Drive	42	UCD	1,750	770	C	960	C	1010	C	1190	D
Pole Line Road N of 5th Street	28	City	1,750	1130	D	1120	D	1290	D	1290	D
Pole Line Road N of Covell Boulevard	5	City	1,780	1350	C	1360	C	1510	D	1510	D
Pole Line Road S of 5th Street	35	City	1,780	1530	D	1510	D	1860	**F**	1920	**F**
Pole Line Road S of Covell Boulevard	19	City	1,750	910	C	860	C	1020	C	1040	**D**
Research Park Drive N of Richards Boulevard	47	City	1,750	740	C	800	C	720	C	830	C
Richards Boulevard E of Research Park Drive	48	City	1,780	1970	**F**	2160	**F**	2330	**F**	2280	**F**
Russell Boulevard E of Eisenhower Street	30	City	4,770	2060	C	2040	C	2070	C	2080	C
Russell Boulevard W of A Street	32	City	4,770	1690	C	1600	C	2410	C	2500	C
Russell Boulevard W of Anderson Road	31	City	4,770	1960	C	1790	C	2220	C	2160	C
Russell Boulevard W of Lake Boulevard	29	City	1,750	890	C	900	C	1000	C	940	C
Shasta Drive S of Covell Boulevard	13	City	1,750	1030	C	1050	D	910	C	960	C
Sycamore Lane N of Russell Boulevard	24	City	1,110	1010	E	1000	E	960	E	1000	E
Sycamore Lane S of Covell Boulevard	14	City	1,110	1060	E	980	E	880	D	860	D

Note: Deficient operations are in **bold**. Significant impacts are highlighted in grey.

Table 5-7 Cumulative Roadway Segment Levels of Service – Access Scenario 2

Roadway Segment	Segment ID	Jurisdiction	Capacity	AM				PM			
				Cumulative No Project		Cumulative With Project - Access Scenario 2		Cumulative No Project		Cumulative With Project – Access Scenario 2	
				Total Volume	LOS	Total Volume	LOS	Total Volume	LOS	Total Volume	LOS
1st Street E of D Street	44	City Core	1,780	1020	C	1000	C	1230	C	1210	C
1st Street E of E Street	45	City Core	1,780	400	C	420	C	1150	C	1260	C
2nd Street E of Pena Drive	37	City	1,750	1410	D	1370	D	1690	E	1690	E
3rd Street E of B Street	36	City Core	610	880	F	890	F	1330	F	1250	F
5th Street W of Pole Line Road	33	City	4,770	1220	C	1260	C	1340	C	1400	C
8th Street E of F Street	23	City	1,750	810	C	820	C	790	C	810	C
Alhambra Drive S of Covell Boulevard	20	City	1,750	560	C	690	C	380	C	380	C
Alhambra Drive W of Mace Boulevard	22	City	1,110	840	D	800	D	800	D	820	D
Anderson Road N of Covell Boulevard	3	City	1,750	540	C	480	C	630	C	670	C
Anderson Road N of Russell Boulevard	25	City	1,750	1190	D	1110	D	1050	D	1040	D
Anderson Road S of Covell Boulevard	15	City	1,750	850	C	780	C	790	C	870	C
La Rue Road S of Russell Boulevard	34	UCD	4,770	1530	C	1680	C	2230	C	2130	C
B Street N of Russell Boulevard/ 5th Street	26	City	1,750	520	C	600	C	560	C	560	C
Chiles Road E of Mace Boulevard	40	City	1,750	820	C	830	C	1070	D	1050	D
Chiles Road W of Cowell/EB 80 Off	39	City	1,750	980	C	950	C	1010	C	980	C
County Road 31 E of County Road 98	6	Yolo	1,780	820	C	840	C	900	C	1100	C
County Road 32A E of Mace Boulevard	38	Yolo 32A	1,750	550	C	800	C	900	C	980	C
County Road 99D S of County Road 29	1	Yolo	1,750	750	C	800	C	880	C	760	C
Covell Boulevard E of Denali Drive	7	City	1,780	880	C	890	C	1910	F	2230	F
Covell Boulevard, E of F Street	9	City	4,770	2430	C	2610	C	2540	C	2540	C
Covell Boulevard E of Harper High	11	Yolo	1,780	1200	C	1330	C	1440	D	1420	D
Covell Boulevard E of Monarch Lane	10	City	4,770	1570	C	1700	C	1660	C	1620	C
Covell Boulevard W of Anderson Road	8	City	4,770	2020	C	1950	C	2200	C	2300	C
Cowell Boulevard W of Mace Boulevard	49	City	1,750	640	C	650	C	650	C	660	C
E Street N of 1st Street	43	City Core	610	630	F	630	F	770	F	620	F
F Street N of 5th Street	27	City	1,750	460	C	410	C	730	C	720	C

Table 5-7 Cumulative Roadway Segment Levels of Service – Access Scenario 2

Roadway Segment	Segment ID	Jurisdiction	Capacity	AM				PM			
				Cumulative No Project		Cumulative With Project - Access Scenario 2		Cumulative No Project		Cumulative With Project – Access Scenario 2	
				Total Volume	LOS	Total Volume	LOS	Total Volume	LOS	Total Volume	LOS
F Street N of Covell Boulevard	4	City	1,750	740	C	730	C	720	C	720	C
F Street S of Covell Boulevard	17	City	1,750	810	C	790	C	940	C	970	C
Hutchison Drive W of Health Science Drive	41	UCD	4,770	1760	C	1810	C	1870	C	1990	C
John Jones Road N of Covell Boulevard	2	City	1,750	2090	**F**	2000	**F**	1710	**E**	1680	**E**
L Street S of Covell Boulevard	18	City	1,110	630	C	670	D	590	C	590	C
Lake Boulevard S of Covell Boulevard	12	City	1,750	700	C	670	C	670	C	650	C
Loyola Drive E of Pole Line Road	21	City	1,110	330	C	370	C	430	C	430	C
Mace Boulevard S of El Macero Drive	50	City	1,780	250	C	220	C	380	C	340	C
Oak Ave S of Covell Boulevard	16	City	1,110	690	D	720	D	700	D	620	C
Old Davis Road N of I-80	46	UCD	1,750	1400	D	1410	D	1520	E	1470	E
Old Davis Road S of Hutchison Drive	42	UCD	1,750	770	C	780	C	1010	C	990	C
Pole Line Road N of 5th Street	28	City	1,750	1130	D	1130	D	1290	D	1330	D
Pole Line Road N of Covell Boulevard	5	City	1,780	1350	C	1350	C	1510	D	1510	D
Pole Line Road S of 5th Street	35	City	1,780	1530	D	1590	D	1860	**F**	1940	**F**
Pole Line Road S of Covell Boulevard	19	City	1,750	910	C	960	C	1020	C	1040	**D**
Research Park Drive N of Richards Boulevard	47	City	1,750	740	C	690	C	720	C	800	C
Richards Boulevard E of Research Park Drive	48	City	1,780	1970	**F**	2110	**F**	2330	**F**	2260	**F**
Russell Boulevard E of Eisenhower Street	30	City	4,770	2060	C	2020	C	2070	C	2070	C
Russell Boulevard W of A Street	32	City	4,770	1690	C	1740	C	2410	C	2400	C
Russell Boulevard W of Anderson Road	31	City	4,770	1960	C	1980	C	2220	C	2180	C
Russell Boulevard W of Lake Boulevard	29	City	1,750	890	C	900	C	1000	C	960	C
Shasta Drive S of Covell Boulevard	13	City	1,750	1030	C	1110	D	910	C	950	C
Sycamore Lane N of Russell Boulevard	24	City	1,110	1010	E	1060	E	960	E	1010	E
Sycamore Lane S of Covell Boulevard	14	City	1,110	1060	E	1080	E	880	D	880	D

Note: Deficient operations are in bold. Significant impacts are highlighted in grey.

Access Scenario 1 (two access points)

Adding the project to the Cumulative No Project condition, under Access Scenario 1, causes significant impacts on three roadway segments, including:

1. Covell Boulevard East of Denali Drive (LOS F, p.m. peak hour)
2. John Jones Road North of Covell Boulevard (LOS F, a.m. and p.m. peak hours)
3. Richards Boulevard east of Research Park Drive (LOS F, a.m. and p.m. peak hours)

For all of these segments, the projected travel demand exceeds the peak hour capacity, and widening would be required to serve the projected demand.

In summary, the project's incremental increase in traffic along roadway segments, in combination with traffic from cumulative development, would be considered ***cumulatively considerable****.*

Access Scenario 2 (one access point)

Adding the project to the Cumulative No Project condition, under Access Scenario 2, causes significant impacts on two roadway segments, including:

1. Covell Boulevard East of Denali Drive (LOS F, p.m. peak hour)
2. Richards Boulevard east of Research Park Drive (LOS F, a.m. and p.m. peak hours)

For both of these segments, the projected travel demand exceeds the peak hour capacity, and widening would be required to serve the projected demand.

In summary, the project's incremental increase in traffic along roadway segments, in combination with traffic from cumulative development, would be considered cumulatively considerable, and impacts would be **significant**.

Mitigation Measure

Because the Cumulative plus Project scenario assumes a significant level of new development in Davis (approximately 18,390 new employees in the Innovation Center and Nishi projects), and the cumulative impacts to the five road segments are based on forecast volumes that would exceed capacities by approximately 10-20 percent, a combination of monitoring and traffic management strategies is recommended as an alternative to widening. Therefore, Mitigation Measure 5.14-2 is proposed to reduce the impacts to the extent feasible, without roadway widening that (1) would potentially not be needed and/or (2) would be inconsistent with City of Davis General Plan policies regarding ultimate roadway widths.

Mitigation Measure 5.14-2: The applicant shall contribute appropriate fees for the implementation of travel route management strategies, including changeable message signs with route delay information and downtown parking capacity information, signal coordination and timing plans, and other roadway network management strategies, as appropriate, to efficiently manage the capacities of the various roadways serving as the primary travel corridors in Davis.

This project is not currently included in the City's transportation development fee program. The project applicant shall fund a City-administered engineering analysis to determine a probable estimate of costs and a fair share of the improvements. The City of Davis shall include the project in the development fee program. The City, in cooperation with UC Davis, shall implement information systems in South Davis, Downtown Davis, and on the UC Davis campus that inform motorists when Richards Boulevard, between First Street and Research Park Drive, is heavily congested and encourage the use of alternate routes – particularly for through traffic without a destination in Downtown Davis. The information systems shall include vehicle detection equipment at key points on Richards Boulevard in the I-80 interchange and changeable message signs (CMS) with route delay

information and downtown parking capacity information. Alternate interchange access points include the I-80/Old Davis Road interchange for campus traffic and the I-80/Mace Boulevard interchange for South Davis traffic.

Because the effectiveness of these measures cannot be assured of reducing the projected volumes on the affected roadways to a level that reduces volumes at or below the affected roadways' capacities, the project remains cumulatively considerable, and impacts would be **significant and unavoidable**.

FREEWAY SEGMENT OPERATIONS

Tables 5-8 and 5-9 shows the effect of project traffic on the Cumulative No Project freeway operating condition for the local study area freeway segments studied.

Access Scenario 1 (two access points)

For Project Access Scenario 1, the project adds trips to five freeway segments that operate at LOS F conditions under the Cumulative No Project scenario. The project increases trips on these freeway segments by less than 5 percent. As such, the project's cumulative effect on the freeway segments under Access Scenario 1 is **less-than-significant**.

Table 5-8 Cumulative Peak-Hour Freeway Operations – Access Scenario 1

Segment	Existing				Cumulative No Project				Cumulative With Project Access Scenario 1			
	a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-80: Eastbound												
Kidwell Road to SR-113 Junction	11	A	11	A	17	B	15	B	17	B	15	B
Old Davis Road to Richards Boulevard	17	B	18	B	23	C	29	D	22	C	28	D
Richards Boulevard to Mace Boulevard	20	C	22	C	26	C	40	E	26	C	41	E
Mace Boulevard to Chiles Road	25	C	26	C	35	D	-	**F**	35	D	-	**F**
Chiles Road to Enterprise Boulevard	19	C	24	C	26	C	-	**F**	27	D	-	**F**
I-80: Westbound												
Enterprise Boulevard to Chiles Road	18	B	20	C	-	F	33	D	-	**F**	33	D
Chiles Road to Mace Boulevard	17	B	21	C	-	F	31	D	-	**F**	31	D
Mace Boulevard to Olive Drive	25	C	22	C	-	**F**	32	C	-	**F**	31	D
Richards Boulevard to Old Davis Road	17	B	25	C	28	D	41	E	27	D	39	E
SR-113 Junction to Kidwell Road	14	B	17	B	18	B	25	C	18	B	26	C
SR-113: Northbound												
Hutchison Drive to Russell Boulevard	8	A	12	B	19	C	17	B	18	B	17	B
Russell Boulevard to Covell Boulevard	9	A	15	B	20	C	21	C	20	C	21	C
Covell Boulevard to County Road 29	6	A	13	B	9	A	20	C	10	A	20	C
County Road 29 to County Road 27	7	A	12	B	11	A	27	D	11	A	28	D

Table 5-8 Cumulative Peak-Hour Freeway Operations – Access Scenario 1

Segment	Existing				Cumulative No Project				Cumulative With Project Access Scenario 1			
	a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
SR-113: Southbound												
County Road 27 to County Road 29	17	B	15	B	35	D	20	C	37	E	20	C
County Road 29 to Covell Boulevard	16	B	16	B	24	C	20	C	25	C	20	C
Covell Boulevard to Russell Boulevard	18	B	9	A	22	C	22	C	22	C	22	C
Russell Boulevard to Hutchison Drive	18	B	7	A	25	C	19	C	25	C	19	C

Notes: Delay and LOS is based on 2010 HCM methodology.

Access Scenario 2 (one access point)

For Project Access Scenario 2, the project adds trips to five freeway segments that operate at LOS F conditions under the Cumulative No Project scenario. The project increases trips on these freeway segments by less than 5 percent. As such, the project's cumulative effect on the freeway segments under Access Scenario 2 is **less-than-significant**.

Table 5-9 Cumulative Peak-Hour Freeway Operations – Access Scenario 2

Segment	Existing				Cumulative No Project				Cumulative With Project Access Scenario 1			
	a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-80: Eastbound												
Kidwell Road to SR-113 Junction	11	A	11	A	17	B	15	B	17	B	15	B
Old Davis Road to Richards Boulevard	17	B	18	B	23	C	29	D	23	C	29	D
Richards Boulevard to Mace Boulevard	20	C	22	C	26	C	40	E	26	C	41	E
Mace Boulevard to Chiles Road	25	C	26	C	35	D	-	**F**	35	D	-	**F**
Chiles Road to Enterprise Boulevard	19	C	24	C	26	C	-	**F**	27	D	-	**F**
I-80: Westbound												
Enterprise Boulevard to Chiles Road	18	B	20	C	-	**F**	33	D	-	**F**	33	D
Chiles Road to Mace Boulevard	17	B	21	C	-	F	31	D	-	**F**	31	D
Mace Boulevard to Olive Drive	25	C	22	C	-	F	32	D	-	**F**	32	D
Richards Boulevard to Old Davis Road	17	B	25	C	28	D	41	E	28	D	41	E
SR-113 Junction to Kidwell Road	14	B	17	B	18	B	25	C	18	B	26	C
SR-113: Northbound												
Hutchison Drive to Russell Boulevard	8	A	12	B	19	C	17	B	19	C	17	B
Russell Boulevard to Covell Boulevard	9	A	15	B	20	C	21	C	20	C	21	C

Table 5-9 Cumulative Peak-Hour Freeway Operations – Access Scenario 2

Segment	Existing				Cumulative No Project				Cumulative With Project Access Scenario 1			
	a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak		a.m. Peak		p.m. Peak	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Covell Boulevard to County Road 29	6	A	13	B	9	A	20	C	10	A	20	C
County Road 29 to County Road 27	7	A	12	B	11	A	27	D	11	A	28	D
SR-113: Southbound												
County Road 27 to County Road 29	17	B	15	B	35	D	20	C	37	E	20	C
County Road 29 to Covell Boulevard	16	B	16	B	24	C	20	C	25	C	20	C
Covell Boulevard to Russell Boulevard	18	B	9	A	22	C	22	C	22	C	23	C
Russell Boulevard to Hutchison Drive	18	B	7	A	25	C	19	C	26	C	20	C

Notes: Delay and LOS is based on 2010 HCM methodology.

OTHER TRANSPORTATION

Impacts related to emergency vehicle access, bicycle and pedestrian access, and transit use are considered site-specific and not cumulatively considerable. The project would connect to the existing transportation network and would provide on-site facilities for pedestrian, bicycle, and bus use. Impacts would be **less than significant**.

5.3.15 Utilities

WATER SUPPLY AND INFRASTRUCTURE

As discussed in Section 4.15, "Utilities," water would be supplied to the project site by the City of Davis. As shown in Table 4.15-2, the maximum annual water demand within the City's current service area at General Plan buildout (i.e., under future year conditions assuming cumulative growth within the City) is 13,258 acre feet per year (afy). Tables 4.15-3 and 4.15-4 show that the reliable capacity of the water sources under the City's control would be 15,253 afy from groundwater and future surface water supplies. There would be a remaining capacity of 1,995 afy for projects not currently within the City's service area (such as this project). Development at the Nishi site would result in a maximum daily demand of 0.209 million gallons per day (mgd) and a maximum annual demand of 190 afy, which would be less than the City's anticipated remaining capacity, inclusive of future growth within the City and the Mace Ranch and Davis Innovation Center projects (Brown and Caldwell 2015a). Therefore, no new or expanded entitlements would be required as a result of the Nishi Gateway project under future (i.e., cumulative) conditions. The City would be able to continue to meet cumulative water demands within their service area and this would be a less-than-significant cumulative impact. In addition, the evaluation of pipeline capacity included as part of Impact 4.15-2 included an evaluation of remaining capacity. Therefore, with inclusion of Mitigation Measure 4.15-2, the project-specific impact would be reduced to less than significant, but also the project's incremental contribution to pipeline capacity would be less than cumulatively considerable. Impacts would be **less than significant**.

WASTEWATER TREATMENT

Wastewater treatment for the Nishi Gateway project would either be provided by the City of Davis, as proposed, or UC Davis. Because information on the capacity of UC Davis's lines and plant are not currently available, this analysis only addresses the capacity of the City of Davis system.

If the project connects to the City of Davis sewer system, collected wastewater flows would be transported to the City's Wastewater Treatment Plant (WWTP) for treatment and disposal. A system of public sewer mains would be constructed throughout the project site, as well as a lift station, which may be required. The proposed point of connection would likely be to the existing 8-inch line in West Olive Drive. Based on conversations with the City of Davis, the wastewater collection system in Olive Drive would need improvements to receive wastewater discharges from the Nishi site. Implementation of Mitigation Measure 4.15-1 would require the project applicant to perform a more detailed analysis of the capacities of all the downstream sewer lines and the sewer lift station to assess whether additional improvements to the lines and lift station would be needed.

As shown in Table 4.15-8, the City's WWTP has capacity (beyond general plan buildout) for 0.95 mgd of average dry weather flow and for a biochemical oxygen demand (BOD) load of 660 pounds per day. The project would average 300 pounds per day in BOD load. Therefore, the City's WWTP has capacity to both serve the projected buildout of the general plan and to serve the development at the Nishi site. Because flows could be accommodated with existing capacity, the WWTP would not require new or expanded facilities to serve the project.

However, the City's WWTP may not have sufficient capacity to serve all of the proposed cumulative development listed in Table 5-2, if all projects are approved, particularly the Davis Innovation Center and Mace Ranch Innovation Center through the Measure J/R election process. A significant cumulative impact could occur if these two projects are approved, placing additional demand on the City's WWTP and necessitating an increase in wastewater treatment capacity. Although cumulative development, which includes these two large projects, would be required to provide or fund the necessary wastewater treatment disposal and treatment facilities to serve those developments consistent with relevant local policies, it is not certain if sufficient capacity would be available to serve all the cumulative development at the time the capacity is needed. For this reason, this cumulative impact would be significant, and the project's contribution to this cumulative impact would be significant.

Because adequate treatment capacity may not be available to treat wastewater flows from cumulative development, a significant cumulative wastewater treatment impact could occur. Though the project itself would not require new or expanded facilities, the combination of the project with other development would require the expansion of existing wastewater treatment facilities. This would be a **significant** cumulative wastewater treatment impact and the project would be cumulatively considerable.

Mitigation Measures

Mitigation Measure 5.15-1: Prior to approval of improvement plans for each phase of development, the applicant shall provide funding for the City to perform a WWTP analysis to identify the then-current City of Davis WWTP BOD loading capacity. If the WWTP analysis determines that adequate BOD loading capacity exists at the WWTP to serve the project, further action is not required for the phase under review. If the analysis finds that the WWTP BOD loading capacity is not sufficient to serve the particular development phase under review, that phase of development shall not be approved until a plan, for financing and constructing additional BOD loading capacity improvements has been prepared and approved; the additional BOD loading capacity improvements have been constructed; and the City Engineer has verified that sufficient capacity exists to serve said phase.

With the implementation of Mitigation Measure 5.15-1, the impact on wastewater treatment facilities would be **less than significant** because each project would contribute fair share payments and implement improvements before operation of additional uses to ensure that adequate wastewater treatment capacity is available.

SOLID WASTE

Development of the Nishi Gateway project, in combination with cumulative development in the region, would increase demands for solid waste disposal capacity; however, substantial capacity is available at the Yolo County Central Landfill to meet this demand. Therefore, cumulative solid waste impacts would be less than significant. Project construction and operation would be anticipated to generate an additional 3.9 tons of solid waste per day. This would constitute a very small percentage of the daily tonnage of solid waste accepted at the Yolo County Central Landfill, which has a remaining capacity of approximately 49,035,200 cubic yards, and is expected to have available capacity until 2081 (California Department of Resources Recycling and Recovery 2015). Therefore, the project would not be considered cumulatively considerable with respect to solid waste generation and landfill capacity.

The Yolo County Central Landfill has adequate capacity to meet the demands associated with the minimal demands of the Nishi Gateway Project. Therefore, the project would not be cumulatively considerable. This would be a **less-than-significant** cumulative utilities impact.

ELECTRICITY AND NATURAL GAS

Development of the Nishi Gateway project, in combination with cumulative development in the region, would result in an increase in electrical and natural gas demands. Development of the project site has been anticipated through local and regional planning efforts for some time, and Pacific Gas & Electric (PG&E), the local natural gas service provider, periodically considers the need to purchase more energy resources and upgrade/expand its infrastructure based in part on these planning efforts. Therefore, it is anticipated that PG&E would have the capacity to serve the project's demand with existing infrastructure and system-wide utility capacity. No offsite improvements would be needed to satisfy the additional demand for electricity and natural gas. In addition, the project would not limit PG&E's ability to serve other existing and future development in the region, including related projects.

The project would not result in a considerable contribution such that a new significant cumulative electricity or natural gas impact would occur. This would be a **less-than-significant** cumulative utilities impact.

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