Appendix B

Transportation Analysis

FEHR PEERS

TECHNICAL MEMORANDUM

Date: September 6, 2019

To: Pat Angell, Ascent Environmental

From: Carly Panos & David B. Robinson, Fehr & Peers

Subject: ***California Northstate University – AB 900 Analysis***

RS19-3789

Fehr & Peers has completed a transportation efficiency and vehicle miles traveled analysis for the proposed California Northstate University (CNU) project located in the City of Elk Grove. This memorandum provides information regarding the methodology and results of the analysis for the purposes of the Assembly Bill 900 application. Additional analysis and a complete transportation impact study will be completed and provided during preparation of the Environmental Impact Report. It is important to note that the proposed project will be constructed in three phases. The transportation efficiency analysis was completed for the project at full build out. Total daily VMT is provided by development phase.

Project Description

The proposed project includes expanding the existing CNU, which consists of one 109,800 square foot building, to include a hospital, outpatient building, medical office building, dormitories, administrative offices, restaurant and retail space, and three parking garages. An existing 76,000 square foot office building and seven commercial buildings totaling approximately 68,500 square feet will be demolished with phased construction of the project.

The project is located southwest of the Elk Grove Boulevard/West Taron Drive intersection. Access is proposed via one existing driveway on Elk Grove Boulevard, four existing driveways on West Taron Drive, and three existing driveways on Riparian Drive.

Consistent with the requirements of the *City of Elk Grove Climate Action Plan: 2019 Update*, the project also includes a Transportation Demand Management (TDM) Plan. The Climate Action Plan (CAP), CAP measure TACM-3 (Intercity Transportation Demand Management) focuses on implementing TDM strategies to reduce the use of single-occupancy vehicle trips, with a target of achieving a 15 percent reduction in project vehicle trips and associated vehicle miles of travel (VMT).

To aid the development of TDM plans, the City of Elk Grove developed the City of Elk Grove Transportation Demand Management Plan Guidelines. The guidelines identify TDM measure by category that include marketing and promotion, bike facilities, transit benefits, commuter benefits, and parking facilities. The guidelines outline the requirements for each TDM plan and identifies the following for each TDM measure:

- Measure Requirements – describes the transportation amenity being provided, the amount/frequency of the amenity, and the property owner's responsibilities. Each TDM measure is assigned a point value between one and five. The higher the value the more effective the measure is a reducing vehicle travel
- Compliance Requirements – identifies the required actions and obligations of the applicant or property owner's for compliance with the TDM measure during the development review phase of the project
- TDM Plan Annual Progress Report – identifies the annual reporting requirement for the property owners of TDM coordinator, which include the number of employees participating in the plan (i.e., by measure) and the commute mode share of employees, along with other performance measures that demonstrate performance

The TDM Plan is required to include all required measures and a set of optional TDM measures that total to a minimum of 10 points.

Table 1 summarizes the measures included in the proposed project's TDM Plan. Consistent with the guidelines, the plan includes all required measures and 28 points of optional measures. A detailed description of the TDM measures is attached.

Table 1 – Proposed Project TDM Plan

TDM Category	TDM Measure	Required	Optional	Measure Points
Marketing and Promotion	Transportation Marketing Services	X		-
Bike Facilities	Short-Term Bicycle Parking		X	1
	Long-Term Bicycle Parking			2
	Improved Access to Bike Network			1
	Showers and Locker Rooms			3
On-Site Amenities	On-Site Cafe			3
Transit	Subsidized Transit Passes			3
Commuter Benefits	Shuttle Bus Service			5
	Carpooling Program			3
	Guaranteed Ride Home			4
Parking Facilities	Parking Cash Out Program			3
			Total	28

Source: Fehr & Peers, 2019

TDM+ was used to estimate a range of TDM reductions that could be expected from the TDM strategies like those listed in **Table 1**.

TDM+ incorporates the effects of numerous land use strategies as well as various travel incentives/disincentives. The VMT calculations applied in TDM+ are based on strategies identified in the California Air Resources Board's *Zero Carbon Buildings Study*, which in turn draws from the 2010 CAPCOA manual *Quantifying Greenhouse Gas Mitigation Measures*. These reductions are exclusive of built environment variables like land use mix and density, which are accounted for in our internalization estimate, developed using MXD+.

The TDM strategy reductions have been limited in effectiveness to only land uses where there is supporting research or case studies to support the reductions. The reductions reflect the suburban (single-family) environment of the project location.

TDM+ identified a range of overall reduction for the entire project between 4% and 31%. Based on this evaluation, the 15% reduction applied for the project analysis is achievable. The results of the TDM+ evaluation are attached.

Assembly Bill 900

Assembly Bill (AB) 900 allows qualifying leadership projects to expedite their environmental review process, upon signature of the Governor. In order to qualify as a leadership project, a project must demonstrate that it will achieve at least 15 percent greater transportation efficiency than comparable projects and will not result in any net additional greenhouse gas emissions, among other things. For the purposes of this analysis, transportation efficiency of the proposed project is compared to existing development and a comparable project.

Public Resources Code Section 21180 notes that transportation efficiency is the number of vehicle trips made by employees, visitors, or customers of the residential, retail, commercial, sports, cultural, entertainment, or recreational use project divided by the total number of employees, visitors, and customers. Vehicle miles traveled (VMT) is provided to support greenhouse gas emissions analysis.

Analysis Methodology

To calculate the transportation efficiency, we used local data and trip rates published in the Institute of Transportation Engineers (ITE) 10th Edition Trip Generation Manual to determine trip generation for both the existing and proposed project. **Table 2** displays the trip generation. Trip generation calculations are attached.

Table 2 – Trip Generation															
Land Use (ITE Code)	Quantity	Vehicle Trip Rate							Vehicle Trips						
		Daily	AM			PM			Daily	AM			PM		
		Total	In	Out	Total	In	Out	Total	Total	In	Out	Total	In	Out	Total
Existing Development Trip Generation															
CNU Building (550)	109.8 ksf	26.04	0.84	0.25	1.09	0.37	0.80	1.17	2,859	92	28	120	41	87	128
Office (710)	76 ksf	9.74	1.00	0.16	1.16	0.18	0.97	1.15	740	76	12	88	14	73	87
Shopping Center (820)	68.5 ksf	37.75	0.58	0.36	0.94	1.83	1.98	3.81	2,586	40	24	64	125	136	261
								Existing Trips	6,185	208	64	272	180	296	476
								Internal Trips[3]	288	27	8	35	31	50	81
								Pass By Trips[1]	89				43	46	89
								Total Existing External Trips	**5,808**	**181**	**56**	**237**	**106**	**200**	**306**
Comparable Project (Buildout) Trip Generation															
Hospital and Supporting Uses (610)	733.3 ksf	10.72	0.61	0.28	0.89	0.31	0.66	0.97	7,861	444	209	653	227	484	708
Outpatient Clinic (610)	168.5 ksf	10.72	0.61	0.28	0.89	0.31	0.66	0.97	1,806	102	48	150	52	111	163
Medical Office (720)	100 ksf	34.80	2.17	0.61	2.78	0.97	2.49	3.46	3,480	217	61	278	97	249	346
CNU Building (550)	109.8 ksf	26.04	0.84	0.25	1.09	0.37	0.80	1.17	2,859	92	28	120	41	87	128
Dormitory[2]	300 beds	2.11	0.03	0.04	0.07	0.08	0.08	0.16	633	10	11	21	24	24	48
High-Turn Over Restaurant (932)	41.4 ksf	112.18	5.47	4.47	9.94	6.06	3.71	9.77	4,644	227	185	412	250	154	404
Retail (820)	51.4 ksf	37.75	0.58	0.36	0.94	1.83	1.98	3.81	1,940	30	18	48	94	102	196
Admin Office (710)	24 ksf	9.74	1.00	0.16	1.16	0.18	0.97	1.15	234	24	4	28	4	24	28
								Proposed Project Trips	23,457	1,146	564	1,710	789	1,235	2,021
								Internal Trips[3]	2,177	193	95	288	139	216	355
								Pass By Trips[1]	174				108	66	174
								Total Proposed Project External Trips	**21,106**	**953**	**469**	**1,422**	**542**	**953**	**1,492**

Notes:
[1] A 34% pass by trip reduction was applied to the existing shopping center during the PM peak hour. A 43% pass by trip reduction was applied to the proposed restaurant during the PM peak hour. Pass by reduction rates are based on data published in ITE's 3rd Edition *Trip Generation Handbook.*
[2] Trip rates for dormitories are based on data collected at two local privately operated student housing complexes.
[3] Internal trips were calculated using MXD+.
ksf = 1,000 square feet.
Source: Fehr & Peers, 2019

The number of employees, visitors, and customers was derived using a combination of data including information provided by CNU, trip generation, and average vehicle occupancy rates. **Table 3** displays the number of employees, visitors, and customers for both the existing development and proposed project at buildout.

Table 3 – Employee, Visitor and Customer Information	
Land Use	**Employee, Visitors, and Customers**
Existing Development	
CNU School Building	840
Office Building	400
Shopping Center	2,159
Total Employees, Visitors, and Customers	**3,399**
Proposed Project	
Hospital Employees	1,080
Nurses	840
Doctors	360
Patients	2,400
Visitors	3,000
CNU Students	1,200
CNU Staff	350
Retail	5,498
Total Employees, Visitors and Customers	**14,728**
Source: Fehr & Peers, 2019	

Transportation Efficiency

Daily trip generation and the number of employees, visitors, and customers were used to determine the transportation efficiency for the existing development and the proposed project at buildout. **Table 4** displays the results of the calculation. As shown, the proposed project will achieve at least 15% greater transportation efficiency than the comparable project. Therefore, the project complies with the AB 900 requirement.

Table 4 – Transportation Efficiency			
Development Scenario	**Daily Trips**	**Employees, Visitors and Customers**	**Transportation Efficiency Ratio**
Existing Development	5,808	3,399	1.71
Comparable Project (Buildout)	21,106	14,728	1.43
Proposed Project (With 15% TDM Reduction)	17,940	14,728	1.22
Source: Fehr & Peers, 2019			

Details of the transportation efficiency calculation, including the source of the employee, visitor, and customer estimates are attached.

Vehicle Miles Traveled

Vehicle miles of travel (VMT) for both the existing development and the proposed project by development phase. Moblie-sourced from StreetLight was used to obtain the average trip length for the existing CNU school building, the existing office building (ALLDATA), and the existing shopping center, as well as seven comparable hospitals and medical centers within the Sacramento region. **Table 5** displays the average trip length based on observed data on Mondays, Tuesdays, Wednesdays and Thursdays during March, April, September and October 2018.

Table 5 – Observed Daily Trip Counts and Daily Average Trip Lengths		
Location	**Number of Observations**	**Average Trip Length (Miles)**
Existing Development		
Existing CNU School Building	1,162	7.55
Existing Office Building	980	24.35
Existing Shopping Center	1,992	9.90
Comparable Hospitals		
Kaiser Permanente Roseville Medical Center	20,839	10.25
Kaiser Permanente South Sacramento Medical Center	17,148	8.75
Mercy General Hospital	7,119	11.05
Mercy Hospital of Folsom	2,075	11.35
Mercy San Juan Medical Center	10,948	10.20
Methodist Hospital of Sacramento	8,408	8.45
Sutter Roseville Medical Center	16,817	9.90
Hospital Weighted Average Trip Length		**9.78**
Source: StreetLight Data and Fehr & Peers, 2019		

The trip lengths were multiplied by the number of daily trips (excluding internal and pass by trips) provided to calculate average VMT. **Table 6** displays the VMT for the existing development and development phase for the comparable and proposed project. Detailed VMT calculations are attached.

Table 6 – Daily VMT by Development Phase		
Development Scenario		**VMT**
Existing Development		61,232
Comparable Project	Phase 1	102,607
	Phase 2	162,571
	Phase 3 (Buildout)	201,388
Proposed Project With 15% TDM Reduction	Phase 1	87,216
	Phase 2	138,185
	Phase 3 (Buildout)	171,180
Source: Fehr & Peers, 2019		

Detailed VMT calculations are attached.

Attachments

1. MARKETING AND PROMOTION

This measure category focuses on ensuring that employees are informed of the TDM Plan being implemented and understand all the available transportation amenities, services, and/or incentives.

TDM MEASURE	MEASURE REQUIREMENTS	COMPLIANCE REQUIREMENTS	MEASURE POINTS
Transportation Marketing Services	The building owner, in coordination with the building tenants, shall administer a comprehensive marketing and communication campaign which provides all tenants and employees at the project site with information about available transportation amenities, services, and/or incentives. Marketing services shall be provided by a TDM coordinator or a communications professional. Marketing services shall include, at a minimum, the following activities: 1. Promotions. The TDM coordinator or communications professional shall develop and deploy promotions to encourage the use of sustainable transportation modes. Marketing materials may include targeted messaging, communications campaigns, incentives (e.g., subsidized transit passes, employee parking cash out options), contests, and other creative strategies for existing and new employees. 2. Welcome Packets. New employees at the project site shall be provided with marketing information about the available transportation amenities, services, and/or incentives. For employees, the packet shall reflect options for major commute origins and offer one-on-one consultations.	The applicant or property owner shall provide the contact information for the provider of TDM marketing services, a description of qualifications, and a sample TDM Plan. City staff shall contact the designated provider and/or review the plan to verify that the applicant or property owner is prepared to offer marketing services in the time frame specified for project approval.	Required Measure

2. BIKE FACILITIES

This measure category encourages employees to use active modes of transportation to commute to and from work by providing convenient on-site amenities tailored to bike commuters.

TDM MEASURE	MEASURE REQUIREMENTS	COMPLIANCE REQUIREMENTS	MEASURE POINTS
Short-Term Bicycle Parking	For new office buildings, provide secure bicycle parking for five percent of the vehicular parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be conveniently located near the building entrance and meet the requirements in 23.58.090 (D)(1) of the Elk Grove Municipal Code.	The applicant or property owner shall submit plans during the development review stage that identify the location and number of short-term bicycle parking spaces.	1
Long-Term Bicycle Parking	For new office buildings, provide secure bicycle parking for five percent of the vehicular parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be conveniently located near the building entrance and shall meet one of the following: 1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; or 3. Lockable, permanently anchored bicycle lockers.	The applicant or property owner shall submit plans during the development review stage that identify the location and number of long-term bicycle parking spaces.	2
Improved Access to Bike Network	The project shall design features which improve pedestrian and bicycle connectivity consistent with the City's Bicycle, Pedestrian, and Trails Master Plan and related planning efforts. The applicant shall provide pathways that are a minimum of 10 feet in width that allow pedestrians and cyclists to connect from adjacent roadways, bike lanes and sidewalks to the main entrance of a building(s). Applicants shall demonstrate, as part of the site design plans, that the proposed project includes pedestrian and bicycle infrastructure and connections to existing facilities.	The applicant or property owner shall submit plans during the development review stage that identify improved access to the City's bike network in the site designs.	1
Showers and Locker Rooms	For new office buildings, projects shall provide at least one shower and six clothes lockers for every 30 Bicycle Parking spaces, but no fewer than one shower and six clothes lockers.	The applicant or property owner shall submit plans during the development review stage that identify the location and number of showers and clothes lockers. City staff shall review the proposed plan to ensure that the included showers and clothes lockers meet the measure requirements.	3

3. On-Site Amenities

This measure category provides a set of on-site design features and amenities that assist employees in reducing single-occupancy vehicle trips during the workday.

TDM Measure	Measure Requirements	Compliance Requirements	Measure Points
On-Site Cafe	For new office buildings, projects shall provide an on-site café with full coffee and lunch menu services to help reduce coffee break and lunchtime vehicle trips.	The applicant or property owner shall submit information about the potential providers for the on-site cafe and a description of the services that would be offered at the project site. Information shall be submitted during the development review stage.	3

4. TRANSIT MEASURES

This measure category incentivizes employees that use transit as their primary commute mode. Transit measures shall only be included in the TDM Plan if the project site is located within 1/2 miles from a transit stop.

TDM MEASURE	MEASURE REQUIREMENTS		MEASURE POINTS
Subsidized Transit Passes	Provide free or subsidized monthly transit passes for on-site employees. Transit pass subsidies shall provide a minimum of $50 of monthly transit costs per employee. Publicize the availability of free or subsidized transit passes to employees through the new employee welcome package.	The applicant or property owner shall provide information on the method in which employees would be reimbursed or compensated for monthly transit costs and how this process would be managed for building tenants. This information will be verified by City staff before certificate of occupancy issuance.	3

5. COMMUTER BENEFITS

This measure category provides a set of commuter services and incentives that encourage employees to commute using modes other than single-occupancy vehicles.

TDM MEASURE	MEASURE REQUIREMENTS		MEASURE POINTS
Vanpool Program	The property owner shall implement an employer or building manager-sponsored vanpool program. The vanpool program would provide service between the project site and general locations where vanpool users live. The property owner shall purchase or lease vans for employee use and pay for mileage and maintenance of the vehicles. See Sac Region 511 website for vanpool incentives.	The applicant or property owner shall provide information on the method in which employees would be reimbursed or compensated for monthly vanpool costs and how this process would be managed for building tenants. This information will be verified by City staff before certificate of occupancy issuance.	4
Carpooling Program	Promote and provide discounts for employees who use rideshare services such as Waze Carpool, UberPOOL, and LyftLine	The applicant or property owner shall provide information on the method in which employees would be reimbursed or compensated for discounts when using rideshare services and how this process would be managed for building tenants. This information will be verified by City staff before certificate of occupancy issuance.	3
Bikeshare Program	Promote and provide discounts for employees who use bike or scooter share services, such as Gotcha, JUMP, SPIN, Lime, or other such services. Provide docks or other designated parking/storage area for the service on-site.	The applicant or property owner shall provide information on the method in which employees would be reimbursed or compensated for discounts when using these services and how this process would be managed for building tenants. This information will be verified by City staff before certificate of occupancy issuance.	1

TDM MEASURE	MEASURE REQUIREMENTS		MEASURE POINTS
Shuttle Bus Service	The applicant shall provide a service plan describing the hours of operation, stop location(s), routes, and headways for the shuttle service. The applicant or property owner shall also submit plans that identify the location and dimensions of potential shuttle stops at the project site and the proposed destination(s) stops. The plans shall identify any other relevant information that may be helpful in understanding potential conflicts at the proposed shuttle stop locations (e.g., proximity to transit stops, crosswalks).	The applicant or property owner shall submit a detailed service plan for the shuttle bus service which must be finalized and approved by the City before certificate of occupancy issuance.	5
Guaranteed Ride Home	The applicant shall submit a service plan describing the services provided by a Guaranteed Ride Home program. See Sacramento TMA for opportunity to participate in an existing program. Participants must pre-register in the program at no additional cost to the employee or employer and are eligible to use the Guaranteed Ride Home program as long as they have used a qualified commute alternative on the day they need assistance. 1. Qualified commute alternatives include carpool, vanpool, shuttles, transit, bicycling, and walking, and commute apps that are specifically for carpooling (such as Scoop and Waze Carpool). 2. Non-qualified commute alternatives include driving alone, motorcycles, and Transportation Network Companies/ride-hailing apps (such as Uber or Lyft) 3. Emergency-related side trips – such as picking up a sick child from school or getting a prescription filled at a pharmacy – are permitted. 4. Participants can be reimbursed a maximum of six times per calendar year (January-December).	The applicant or property owner shall submit a detailed service plan for the Guaranteed Ride Home program which must be finalized and approved by the City before certificate of occupancy issuance.	4

6. PARKING FACILITIES

This measure category focuses on discouraging trips made by private vehicles (particularly single occupancy vehicles) by controlling the supply of accessory parking spaces. Parking Facility measures shall only be included in the TDM Plan if the project site is located within 1/2 miles from a transit stop.

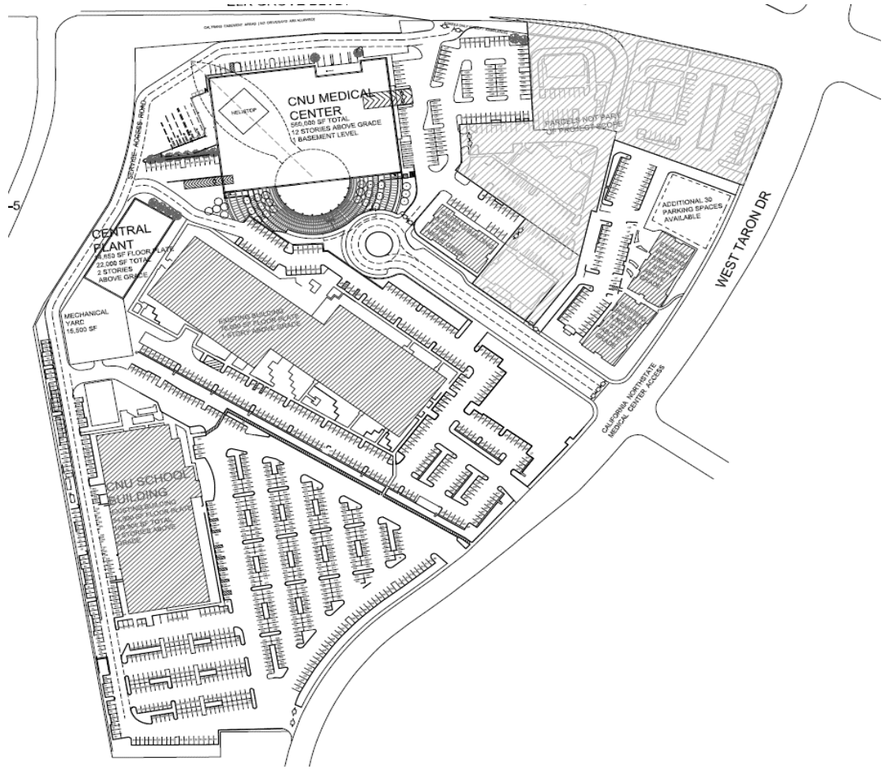
TDM MEASURE	MEASURE REQUIREMENTS		MEASURE POINTS
Parking Cash Out Program	Any tenant employer that subsidizes parking for its employees shall provide all employees with a choice of forgoing any subsidized/free parking for a cash payment equivalent to the cost of the parking space to the employer. Employers shall promote the program to all employees eligible to receive parking at a subsidized level.	The applicant, property owner, or TDM coordinator shall provide City staff with a signed letter agreeing to distribute the TDM Plan, including provisions for the Parking Cash Out Program, via new employee packets, tenant lease documents, and/or deeds. This information shall be submitted during the development review stage.	3
Unbundled Parking Requirement	50 percent of project parking spaces shall be leased or sold separately as part of the tenant or lease agreement rental so that tenants have the option of renting or buying a parking space at an additional cost, and would, thus, experience cost savings if they opt not to rent or purchase parking.	The applicant, property owner, or TDM coordinator shall submit a signed letter agreeing to distribute the TDM Plan, including provisions for the unbundled parking requirements as part of tenant lease documents, and/or deeds. This information shall be submitted during the development review stage.	3

TDM Reduction Summary Report: CNU Elk Grove Hospital				
Overall VMT Reduction: 4% to 31%				
	VMT % Reduction by Land Use			
Parking				
Parking1A: Increased Off-Street Fees				
Parking1B: Increased On-Street Fees				
Parking1D: Unbundled Parking				
Parking1E: Pay-as-you-Go Parking Rates				
Parking 2: Parking Supply				
Transit				
Transit 1: Subsidies	up to 2%	-	-	-
Transit 2A: Transit Frequency				
Transit 2B: Transit Coverage				
Transit 3A: Private Point-to-Point Shuttles	1% to 9%	up to 9%	up to 9%	up to 9%
Transit 3B: Last Mile Shuttle	up to 5%	up to 5%	up to 5%	up to 5%
Commute Programs				
Commute 1A: Commuter Incentives				
Commute 2: Commute Marketing Program	3% to 13%	3% to 13%	3% to 13%	3% to 13%
Commute 3: ERH	up to 1%	-	-	-
Commute 4: TNC Partnerships	up to 1%	-	-	-
Bike and Walk				
BikeWalk1: Secure Parking	up to 1%	up to 1%	up to 1%	up to 1%
BikeWalk2: Showers & Lockers	up to 1%	up to 1%	up to 1%	up to 1%
BikeWalk3: End of Trip Repair Stations	up to 1%	up to 1%	up to 1%	up to 1%
BikeWalk 4: Pedestrian-Oriented Design	up to 2%	up to 2%	up to 2%	up to 2%
BikeWalk 5: Bikeshare System & Subsidies				
Rideshare				
Rideshare 1: Carpool/Vanpool Incentives				
Rideshare 2: Ridematch Program	up to 6%	up to 6%	up to 6%	up to 6%
Rideshare 3: Carshare	up to 1%	up to 1%	up to 1%	up to 1%
Rideshare 4: Carshare Subsidy				
Total				
Total of all Measures	6% to 35%	3% to 29%	3% to 29%	3% to 31%

Trip Generation - Proposed Project (Phase 2)															
Land Use (ITE Code)	**Quantity (ksf and beds for dorms)**	**Vehicle Trip Rate**							**Vehicle Trips**						
		Daily	**AM**			**PM**			**Daily**	**AM**			**PM**		
			In	**Out**	**Total**	**In**	**Out**	**Total**		**In**	**Out**	**Total**	**In**	**Out**	**Total**
Hospital and Supporting Uses* (610)	596.8	10.72	0.61	0.28	0.89	0.31	0.66	0.97	6,398	361	170	531	227	394	708
CNU School Building (550)	109.8	26.04	0.84	0.25	1.09	0.37	0.80	1.17	2,859	92	28	120	41	87	128
Office (710)	76	9.74	1.00	0.16	1.16	0.18	0.97	1.15	740	76	12	88	14	73	87
Shopping Center (820)	26.2	37.75	0.58	0.36	0.94	1.83	1.98	3.81	989	15	9	25	48	52	100
Proposed Project Trips									**10,986**	**544**	**219**	**764**	**330**	**606**	**1,023**
Internal Trips									**875**	**78**	**32**	**111**	**86**	**84**	**267**
Proposed Pass By Trips***									**43**				**21**	**22**	**43**
Total Project Trips									**10,068**	**466**	**187**	**653**	**223**	**500**	**713**

*Includes 29 ksf data center

***43% of PM peak hour trips for proposed restaurant and 34% of PM peak hour trips for existing Shopping Center were removed from daily totals to account for pass by trips during the PM peak hours. Daily pass by percentages were not available. Shopping center pass by was not applied to proposed retail as the proposed retail will be primarily geared towards students.



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Trip Generation - Proposed Project (Phase 2)															
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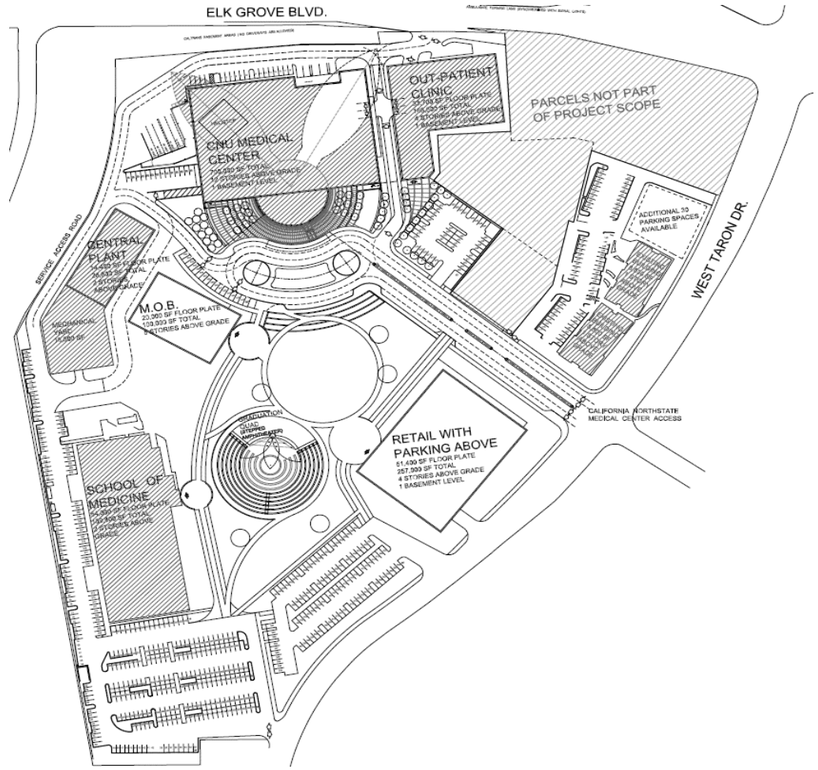
Retail (820)	51.4	37.75	0.58	0.36	0.94	1.83	1.98	3.81	1,940	30	18	48	94	102	196
Retail (820)	17.6	37.75	0.58	0.36	0.94	1.83	1.98	3.81	664	10	6	17	32	35	67
Proposed Project Trips									**18,610**	**895**	**370**	**1,266**	**543**	**1,068**	**1,608**
Internal Trips									**1,301**	**115**	**48**	**164**	**59**	**115**	**174**
Proposed Pass By Trips* **									**113**				**54**	**59**	**113**
Total Project Trips									**17,196**	**780**	**322**	**1,102**	**430**	**894**	**1,321**

*Includes 29 ksf data center

***43% of PM peak hour trips for proposed restaurant and 34% of PM peak hour trips for existing Shopping Center were removed from daily totals to account for pass by trips during the PM peak hours. Daily pass by percentages were not available. Shopping center pass by was not applied to proposed retail as the proposed retail will be primarily geared towards students.



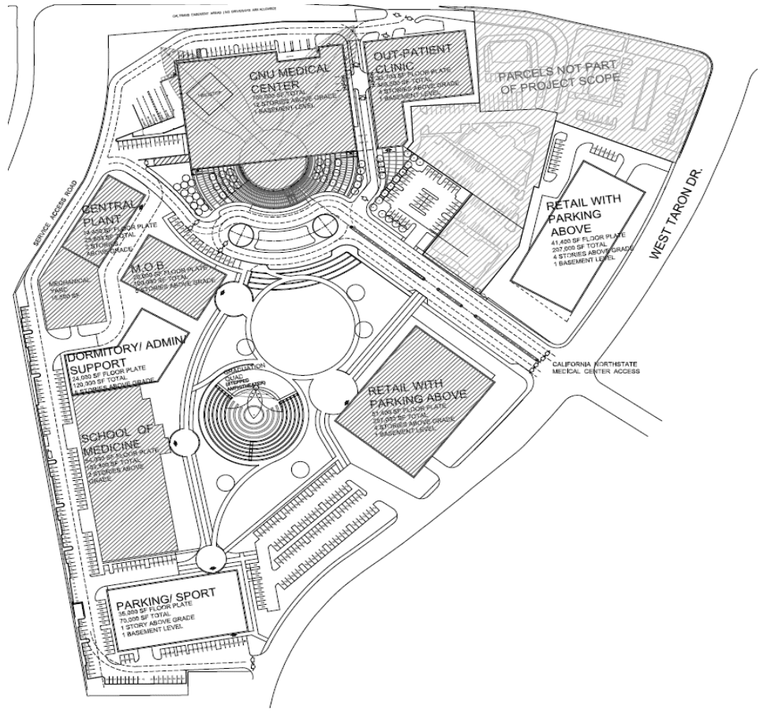
Trip Generation - Existing and Proposed Project (Buildout)

	Land Use (ITE Code)	Quantity (ksf and beds for dorms)	Vehicle Trip Rate							Vehicle Trips						
			Daily	AM			PM			Daily	AM			PM		
				In	Out	Total	In	Out	Total		In	Out	Total	In	Out	Total
Proposed Land Use	Hospital and Supporting Uses* (610)	733.3	10.72	0.61	0.28	0.89	0.31	0.66	0.97	7,861	444	209	653	227	484	708
	Outpatient Clinic (610)	168.5	10.72	0.61	0.28	0.89	0.31	0.66	0.97	1,806	102	48	150	52	111	163
	Medical Office Building (720)	100	34.80	2.17	0.61	2.78	0.97	2.49	3.46	3,480	217	61	278	97	249	346
	CNU School Building (550)	109.8	26.04	0.84	0.25	1.09	0.37	0.80	1.17	2,859	92	28	120	41	87	128
	Dormitory**	300	2.11	0.03	0.04	0.07	0.08	0.08	0.16	633	10	11	21	24	24	48
	High-Turn Over Sit Down Restaurant (932)	41.4	112.18	5.47	4.47	9.94	6.06	3.71	9.77	4,644	227	185	412	250	154	404
	Retail (820)	51.4	37.75	0.58	0.36	0.94	1.83	1.98	3.81	1,940	30	18	48	94	102	196
	Admin (710)	24	9.74	1.00	0.16	1.16	0.18	0.97	1.15	234	24	4	28	4	24	28
									Proposed Project Trips	**23,457**	**1,146**	**564**	**1,710**	**789**	**1,235**	**2,021**
									Internal Trips	**2,177**	**193**	**95**	**288**	**139**	**216**	**355**
									Proposed Pass By Trips* **	**174**				**108**	**66**	**174**
									Total Project Trips	**21,106**	**953**	**469**	**1,422**	**542**	**953**	**1,492**
Existing Land Use	CNU School Building (550)	109.8	26.04	0.84	0.25	1.09	0.37	0.80	1.17	2,859	92	28	120	41	87	128
	Office (710)	76	9.74	1.00	0.16	1.16	0.18	0.97	1.15	740	76	12	88	14	73	87
	Shopping Center (820)	68.5	37.75	0.58	0.36	0.94	1.83	1.98	3.81	2,586	40	24	64	125	136	261
									Existing Trips	**6,185**	**208**	**64**	**272**	**180**	**296**	**476**
									Internal Trips	**288**	**27**	**8**	**35**	**31**	**50**	**81**
									Existing Pass By Trips* **	**89**				**43**	**46**	**89**
									Total Existing Trips	**5,808**	**181**	**56**	**237**	**106**	**200**	**306**
									Net New Project Trips	**15,298**	**772**	**413**	**1,185**	**436**	**753**	**1,186**

*Includes 29 ksf data center

**Based on data collected at two local privately operated student housing apartment complexes. One was located on UC Davis and the other was within one mile of the UC Davis core campus

***43% of PM peak hour trips for proposed restaurant and 34% of PM peak hour trips for existing Shopping Center were removed from daily totals to account for pass by trips during the PM peak hours. Daily pass by percentages were not available. Shopping center pass by was not applied to proposed retail as the proposed retail will be primarily geared towards students.



Transportation Efficiency

Scenario	Daily Trips	Employees, Visitors, Customers	Efficiency Ratio
Existing Conditions	5,808	3,399	1.71
Comparable Project	21,106	14,728	1.43
Proposed Project (With TDM Reductions)	17,940	14,728	1.22

Existing Conditions		**Source**
CNU	840	Provided by Client
Office	400	Provided by Client
Retail Employees/Visitors	2,159	Daily Trips/2*Average Occupancy
Total	**3,399**	

Proposed Project (Buildout)		
Hospital Employees	1,080	Provided by Client
Nurses	840	Provided by Client
Doctors	360	Provided by Client
Patients	2,400	Provided by Client
Visitors	3,000	Provided by Client
CNU Students	1,200	Provided by Client
CNU Staff	350	Provided by Client
Retail Employees/Visitors	5,498	Daily Trips/2*Average Occupancy
Total	**14,728**	

Average Vehicle Occupancy 1.67

Federal Highway Administration (FHWA), 2017 NHTS Weighted Vehicle Occupancy Factors

https://www.fhwa.dot.gov/policyinformation/nhstable.cfm

VMT - Existing Conditions

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
CNU School	2,859	2,685	7.6	20,272
Office	740	695	24.4	16,923
Retail	2,586	2,428	9.9	24,037
Total	6,185	5,808		**61,232**

VMT - Proposed Project (Phase 1)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	6,398	5,863	9.8	57,341
CNU School	2,859	2,620	7.6	19,781
Office	740	678	24.4	16,513
Retail/Restaurant	989	906	9.9	8,973
Total	10,986	10,068		**102,607**

*Internalization based on MXD+

VMT - Proposed Project (Phase 1 - With TDM Reductions)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	5,438	4,984	9.8	48,740
CNU School	2,430	2,227	7.6	16,814
Office	629	576	24.4	14,036
Retail/Restaurant	841	770	9.9	7,627
Total	9,338	8,557		**87,216**

*Internalization based on MXD+

VMT - Existing Conditions

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
CNU School	2,859	2,685	7.55	20,272
Office	740	695	24.35	16,923
Retail	2,586	2,428	9.90	24,037
Total	6,185	5,808		**61,232**

VMT - Proposed Project (Phase 2)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	13,147	12,148	9.78	118,806
CNU School	2,859	2,642	7.55	19,945
Dorms		-	9.78	-
Retail/Restaurant	2,604	2,406	9.90	23,820
Total	18,610	17,196		**162,571**

*Internalization based on MXD+

VMT - Proposed Project (Phase 2 - With TDM Reductions)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	11,175	10,326	9.78	100,985
CNU School	2,430	2,245	7.55	16,953
Dorms	-	-	9.78	-
Retail/Restaurant	2,213	2,045	9.90	20,247
Total	15,819	14,616		**138,185**

*Internalization based on MXD+

VMT - Existing Conditions

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
CNU School	2,859	2,685	7.55	20,272
Office	740	695	24.35	16,923
Retail	2,586	2,428	9.90	24,037
Total	6,185	5,808		**61,232**

VMT - Proposed Project (Buildout)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	13,381	12,040	9.78	117,748
CNU School	2,859	2,572	7.55	19,422
Dorms*	633	570	9.78	5,570
Retail/Restaurant	6,584	5,924	9.90	58,648
Total	23,457	21,106		**201,388**

*Internalization based on MXD+

VMT - Proposed Project (Buildout - With TDM Reductions)

	Daily Trips	Daily (With Internal Trip Adjustment)*	Average Trip Length	VMT
Hospital / Data Center / Outpatient Clinic / MOB / Admin	11,374	10,234	9.78	100,086
CNU School	2,430	2,187	7.55	16,508
Dorms*	538	484	9.78	4,735
Retail/Restaurant	5,596	5,035	9.90	49,851
Total	19,938	17,940		**171,180**

*Internalization based on MXD+