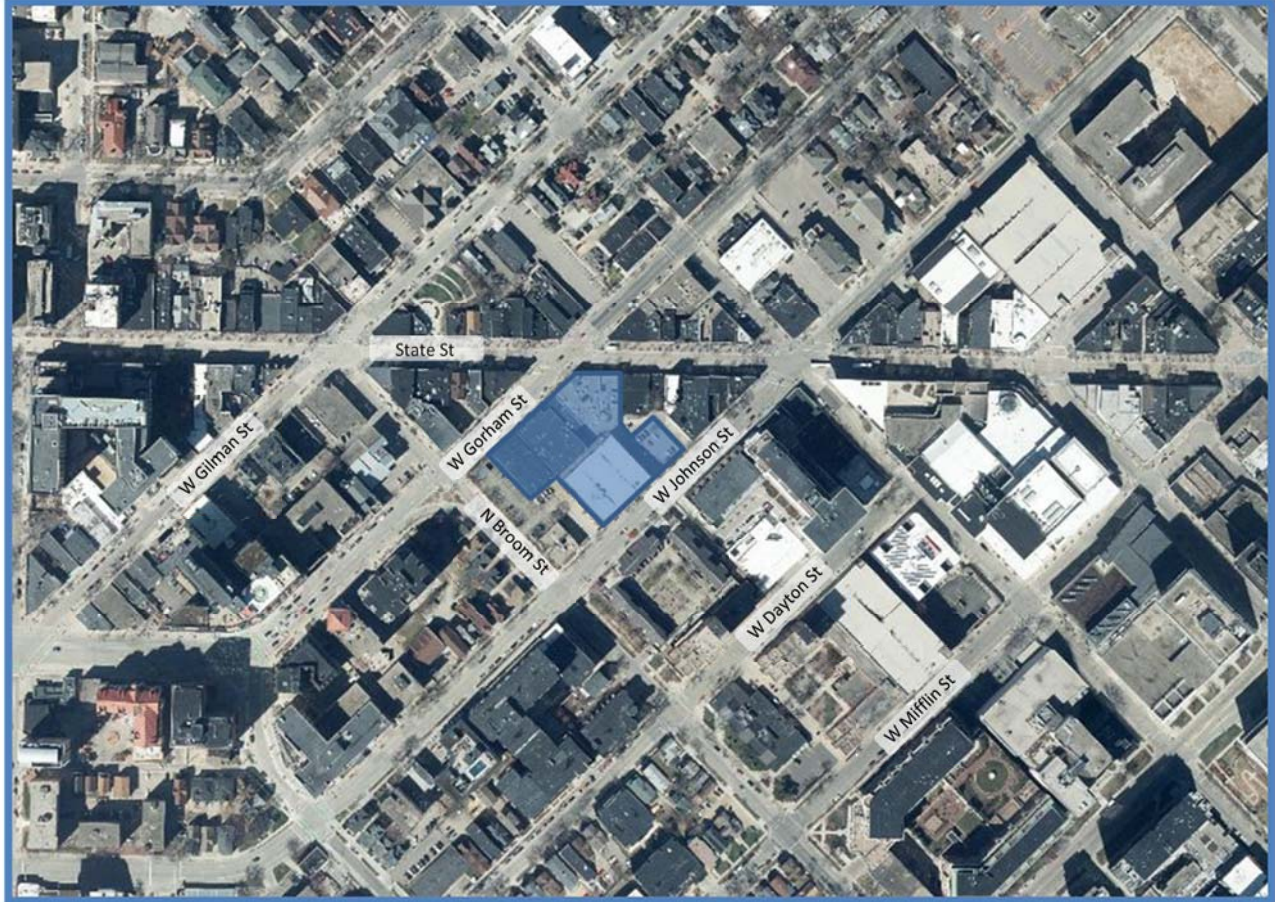


Madison Gorham Development Traffic Demand Comparison Analysis

CITY OF MADISON
DANE COUNTY, WISCONSIN



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1.0 INTRODUCTION

Core Spaces is proposing redevelopment of several of the properties bounded by West Gorham Street, North Broom Street, West Johnson Street, and State Street, in downtown Madison, WI. The Madison Gorham project will include a 10-story building with student/young professional housing units, first-floor retail space, structured parking, and a rooftop terrace with a spa and pool. This new building will replace four existing buildings, including several retail spaces, restaurant/bars, and other smaller businesses at the site. A project location map is provided in **Exhibit 1**.

KL Engineering was contracted by Core Spaces to perform a traffic demand comparison analysis for the existing and proposed redevelopment area. The analysis was requested by City staff in conjunction with the land use application. The objective of the study is to determine the additional traffic that will be generated at this site as a result of the redevelopment.

1.1 Study Area

In the vicinity of the project area, West Gorham Street and West Johnson Street are one-way principal arterials in opposing travel directions (*westbound and eastbound respectively*) with on-street parking and a 25-mph speed limit. North Broom Street is a one-way westbound minor arterial with on-street parking and a 25-mph speed limit. State Street is a collector route which only allows access to city buses, bicycles, emergency vehicles, and permitted vehicles that are actively loading/unloading. All four roadways include bike accommodations, bus stops, and sidewalks.

2.0 BACKGROUND CONDITIONS

The project will require demolition of four existing buildings, which include a variety of different businesses. Many of these businesses plan to relocate to other locations within the City. The following buildings will be demolished as a result of the proposed development:

- 341 State Street
 - *Power Nine Games, Casa de Lara restaurant, Kanopy Dance Company, and Community Pharmacy*
- 315 West Gorham Street
 - *A Room of One's Own Bookstore, Canterbury Inn, and Kaplan*
- 319 West Gorham Street
 - *Chasers Bar and Grille*
- 322 West Johnson Street
 - *Terry's Car Care and Red Rock Saloon*

2.1 Existing Parking and Access

There are three existing driveways that serve the project site. Two accesses serve the businesses on West Johnson Street, including a driveway for Terry's Car Care with approximately 13 parking stalls and a driveway which provides access to the parking garage above Red Rock Saloon with approximately 31 parking stalls and 19 surface parking stalls. The third driveway access is located on North Broom Street, which is a public surface parking lot with approximately 24 parking stalls and connects to the Terry Car Care lot. In total, there are approximately 87 off-street parking stalls.

3.0 PROPOSED DEVELOPMENT

The proposed Madison Gorham project will replace the existing buildings on the site with a ten-story building that includes 386 residential units with 1,101 beds and just under 25,000 square feet of commercial space on the first floor. The building will also include 211 structured parking spaces, 528 residential bicycle parking stalls (*130 structured and 398 standard*), 54 guest bicycle parking stalls, and 79 moped parking stalls. Additionally, part of the public surface parking lot on North Broom Street will remain (<10 parking stalls).

3.1 Proposed Access

One driveway and one loading access is proposed with the Gorham Development Redevelopment. Both accesses will be on West Johnson Street. No other vehicular access is proposed with this development.

4.0 TRAFFIC DEMAND COMPARISON

Trip generation methodologies based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* were used to estimate the number of existing trips generated by the current businesses and the number of trips expected to be generated by the redevelopment project. Trip generation was performed using the ITE land uses that most closely fit the description of the existing/proposed land uses.

4.1 Existing Buildings Trip Generation

The existing businesses and restaurants are estimated to generate 4,596 weekday daily trips, 79 trips (46 in and 33 out) during the AM peak hour, and 458 trips (273 in and 185 out) during the PM peak hour. The trip generation estimates for the existing buildings are shown in **Table 1** below.

Table 1. Existing Buildings Trip Generation

Existing Businesses	ITE Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Roadway Peak			PM Roadway Peak		
					In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Chasers Bar & Grille 319 W. Gorham	Drinking Place	925	7.9 1000 Sq. Ft. GFA	910* (115.19)	0 --	0 --	0 --	59 (66%)	31 (34%)	90 (11.36)
A Room of One's Own 315 W. Gorham	Variety Store	814	10 1000 Sq. Ft. GFA	635 (63.47)	18 (57%)	14 (43%)	32 (3.18)	35 (52%)	33 (48%)	68 (6.84)
Canterbury Inn 315 W. Gorham	Hotel	310	6 Rooms	86 (14.31)	2 (60%)	2 (40%)	4 (0.67)	3 (54%)	2 (46%)	5 (0.89)
Kaplan 315 W. Gorham	Small Office Building	712	1.3 1000 Sq. Ft. GFA	21 (16.19)	2 (83%)	0 (17%)	2 (1.92)	1 (32%)	2 (68%)	3 (2.45)
Terry's Car Care 322 W. Johnson	Automobile Care Center	942	7.3 1000 Sq. Ft. GFA	114 * (15.62)	10 (66%)	6 (34%)	16 (2.25)	11 (48%)	12 (52%)	23 (3.11)
Red Rock Saloon 322 W. Johnson	Drinking Place	925	9 1000 Sq. Ft. GFA	1022** (113.56)	0 --	0 --	0 --	67 (66%)	35 (34%)	102 (11.36)
Casa de Lara 341 State	High-Turnover (Sit-Down) Restaurant	932	10.8 1000 Sq. Ft. GFA	1,212 (112.18)	0 --	0 --	0 ⁺ --	65 (62%)	41 (38%)	106 (9.77)
Power Nine Games 341 State	Variety Store	814	3.8 1000 Sq. Ft. GFA	241 (63.47)	7 (57%)	5 (43%)	12 (3.18)	14 (52%)	12 (48%)	26 (6.84)
Kanopy Dance Co. 341 State	Health/Fitness Club	492	4.3 1000 Sq. Ft. GFA	148** (34.42)	3 (51%)	3 (49%)	6 (1.31)	8 (57%)	7 (43%)	15 (3.45)
Community Pharmacy 341 State	Pharmacy/Drugstore without Drive-Through Window	880	2.3 1000 Sq. Ft. GFA	207 (90.08)	4 (65%)	3 (35%)	7 (2.94)	10 (49%)	10 (51%)	20 (8.51)
Total Generated Trips:				4,596	46	33	79	273	185	458
Multimodal Trip Reduction (50%)				(2,298)	(23)	(17)	(40)	(137)	(92)	(229)
Total Existing Trips:				2,298	23	16	39	136	93	229

* Weekday daily trips were not available for this land use. The weekday daily trips were assumed to be 20% of the PM Peak total trips.

** Weekday daily trips were not available for this land use. The weekday daily trips were assumed to be 10% of the PM Peak total trips.

+ AM Peak trips generated are zero since the restaurant is not open in the morning.

Based on the downtown location, lack of available parking and multimodal facilities in the project area, a 50% multimodal trip reduction was applied to the businesses to account for these reductions in passenger vehicle trips to and from the site for all land uses. No linked or pass-by trip reductions were considered. Most of the pass-by trips to these businesses are assumed to be made by multimodal users.

4.2 Madison Gorham Trip Generation

Retail space within the Madison Gorham Development is anticipated to be used for a coffee shop (≈1,800 sq ft), high-turnover restaurants (≈13,800 sq ft), and traditional retail stores (≈9,200 sq ft). The trip generation estimates for the proposed development are shown in **Table 2** below. The proposed development is projected to generate approximately 6,254 weekday daily trips, 412 trips (201 in and 211 out) during the AM peak hour, and 537 trips (284 in and 253 out) during the PM peak hour. The trip generation estimates for the proposed development are shown in **Table 2** below.

Table 2. Proposed Development Trip Generation

ITE Land Use	ITE Land Use Code	Size	Weekday Daily Trips (rate)	AM Peak			PM Peak		
				In (%)	Out (%)	Total (rate)	In (%)	Out (%)	Total (rate)
Off-Campus Student Apartment	225	1,101 Bedrooms	3,468 (3.15)	54 (41%)	78 (59%)	132 (0.12)	137 (50%)	138 (50%)	275 (0.25)
High-Turnover (Sit-Down) Restaurant	932	6.9 1000 Sq. Ft. GFA	774 (112.18)	38 (55%)	31 (45%)	69 (9.94)	41 (62%)	26 (38%)	67 (9.77)
High-Turnover (Sit-Down) Restaurant	932	6.9 1000 Sq. Ft. GFA	774 (112.18)	0 --	0 --	0 ⁺ --	41 (62%)	26 (38%)	67 (9.77)
Coffee/Donut Shop without Drive-Through Window	936	1.8 1000 Sq. Ft. GFA	654* (363.10)	93 (51%)	89 (49%)	182 (101.14)	32 (50%)	33 (50%)	65 (36.31)
Variety Store	814	9.2 1000 Sq. Ft. GFA	584 (63.47)	16 (57%)	13 (43%)	29 (3.18)	33 (52%)	30 (48%)	63 (6.84)
Total Generated Trips:			6,254	201	211	412	284	253	537
Linked Trips**:			(409)	(33)	(31)	(64)	(21)	(18)	(39)
Multimodal Trip Reduction***:			(2,433)	(90)	(90)	(180)	(115)	(99)	(214)
Total New Trips:			3,412	78	90	168	148	136	284

* Weekday daily trips were not available for this land use. The weekday daily trips were assumed to be 10% of the PM Peak total trips.

** 10% linked trips for restaurant, 30% linked trips for coffee shop, and 10% linked trips for variety store.

*** 30% multimodal reduction for apartment and 50% multimodal reduction for businesses.

+ AM Peak trips generated are zero since the restaurant is not open in the morning.

Multimodal Trip Reductions

Trip reductions were applied to the trip generation to account for trips anticipated to and from the site via pedestrian, bicycle, and transit modes of transportation. Several bus stops and a robust network of bicycle and pedestrian facilities surround the site along with many potential trip origins and destinations within a quarter mile. Therefore, a 30% multimodal trip reduction was applied to the apartments and a 50% multimodal trip reduction was applied to the businesses to account for these reductions in passenger vehicle trips. Multimodal use to and from the apartment complex may be much higher since many of the residents will be students at the University of Wisconsin; however, it is assumed that some of this reduction is already considered as part of the ITE land use code used for the complex. However, given the minimal amount of parking on-site and the surrounding area, many residents will need to rely on alternative modes of transportation, resulting in higher multimodal trips than assumed for this analysis.

Linked Trips

Linked trips are trips that have both an origin and destination within the development and do not result in new trips on the public roadway network. An example of a linked trip at the Madison Gorham Redevelopment would be a resident of the apartments visiting the coffee shop. A 10% linked trip reduction was applied to the restaurant and retail land uses and a 30% linked trip reduction was applied to the coffee shop.

4.3 Trip Generation Comparison

Overall, the Madison Gorham redevelopment is anticipated to increase weekday daily trips, AM peak hour trips, and PM peak hour trips at the project site. A summary of the comparison is provided below:

- Weekday total daily trips are expected to increase by 1,114 (48%) with the proposed development.
- AM peak hour total trips are expected to increase by 129 (431%) with the proposed development. The higher increase in AM peak hour trips is a result of the change in land use from being predominantly businesses and retail to an apartment building where residents are likely to be traveling to work/school during AM peak hours.
- PM peak hour total trips are expected to increase by 55 (24%) with the proposed development.
- Evening and late-night trips are likely to decrease with less retail and bar space.

This development will increase the number of vehicular and multimodal trips to and from the site with the proposed higher density building. With the limited vehicle parking provided on-site, other modes of transportation will need to be used by residents. This will help alleviate any possible congestion concerns due to the increase in density of the overall site.

5.0 CONCLUSION

Information and analysis in this report document existing conditions, estimated trips generated by the existing site, expected new trips generated by the proposed redevelopment, and a comparison of these trips. In summary, the findings of this study are as follows:

- The proposed Madison Gorham redevelopment will replace four existing buildings, which include a variety of different businesses on the site with a ten-story building that includes 386 residential units with 1,101 beds and just under 25,000 square feet of retail space on the first floor.
- The site will include 211 vehicle parking stalls (124 parking stall increase from existing), 582 residential and guest bicycle parking stalls, and 79 moped parking spaces.
- One vehicular access point and one loading access are provided on W Johnson Street for the site.
- Parking provided on-site equates to 0.55 parking stalls per dwelling unit or 0.21 parking stalls per bed. With the very limited parking available on-site and off-site, estimated vehicular trips may be conservative.
- The redevelopment will increase the amount of vehicular and multimodal trips to and from the site with the higher density building. Vehicular weekday daily trips by 48% (*1,114 trip increase*), AM peak hour trips by 431% (*129 trip increase*), and PM peak hour trips by 24% (*55 trip increase*).
- With the minimal parking provided on-site, other modes of transportation will be encouraged by residents. These multimodal trips will help to alleviate potential congestion along the surrounding roadway network.

