



## Memorandum

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Project #: 15642.02

From: Robert Nagi, P.E.  
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Re: **Preliminary Transportation Evaluation**  
Bay Colony  
Waltham, Massachusetts

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Boston Properties (BXP) is pursuing a zoning change to create a new Mixed Innovation and Residential Redevelopment Overlay District (MIRROD) within the Bay Colony area of Waltham (the "Site"). The MIRROD district would allow the reuse of a largely underutilized office park into a predominantly residential neighborhood supported by complementary commercial uses. The area under consideration includes approximately 135 acres across ten proposed development parcels along Winter Street, many of which are currently occupied by mostly vacant or inactive office, research and development, and laboratory buildings.

Under the MIRROD rezoning, the development program evaluated in this memorandum assumes construction of up to 1,103 new residential units (the "Project"), consisting of approximately 962 multifamily units and 141 townhouses. These new residential buildings would replace multiple mostly inactive office parcels while several existing office/R&D/laboratory buildings are expected to remain in place. In addition, an approximately 100,000 square foot (sf) fitness/health club is proposed on one of the parcels to serve both MIRROD residents and the broader community.

In the future, the MIRROD district may also include small-scale supporting commercial or retail uses—such as neighborhood-oriented offices, retail shops, and restaurants/cafés—that are complementary to the primary residential and health club uses. Because these ancillary uses are still conceptual, this preliminary transportation evaluation focuses on trips generated by the 1,103 residential units and the 100,000 sf fitness/health club facility. It is expected that many trips to these smaller supporting uses would be shared with on-site residents and therefore would have a proportionally lower impact on the surrounding roadway network; this will be evaluated in greater detail as part of subsequent Transportation Impact Assessments (TIAs) prepared during the City's Special Permit process.

### Project Description

The new "Mixed Innovation and Residential Redevelopment Overlay District" (MIRROD) is proposed to include properties within the existing Bay Colony development owned by BXP, among other properties. The overall area under consideration includes roughly 135 acres of land which is proposed to be divided into ten development parcels, which are currently occupied by office buildings, several of which currently are vacant. Table 1 provides a summary of the existing uses in this area.

**Table 1 Existing Building and Parking Summary**

Address	Proposed Parcel	Existing office/R&D-laboratory <sup>1</sup>	Existing Parking Spaces
1050 Winter Street	1	162,000	625
1100 Winter Street	2	0	462
880/1100 Winter Street	3	0	758
880 Winter Street – office	4	87,341	398
880 Winter Street – lab	4	131,011	(inc. above)
890 Winter Street	5	176,664	393
870 Winter Street <sup>2</sup>	6	204,750	416
860 Winter Street <sup>2</sup>	7a	162,650	626
890 BEF Winter Street	7b	0	185
1100 Winter Street	8a	211,982	0
1100 Winter Street	8b	74,480	0
1000 Winter Street	9a	0	800
1000 Winter Street	9b	282,014	0
950 Winter Street	10	278,150	859
<b>Total</b>		<b>1,771,042</b>	<b>= 5,522</b>

- 1 Existing office, research & development, and laboratory building area measured in square feet (sf).
- 2 The existing office spaces at 860 Winter Street and 870 Winter Street currently is leased but not occupied.
- 3 Approximately 80,000 sf of the 211,982 sf of 1100 Winter Street building space currently is occupied.
- 4 Approximately 37,000 sf of the 282,014 sf of 1000 Winter Street building space currently is occupied.

## Project Description

The MIRROD redevelopment will involve multiple inactive office parcels being replaced with new residential development. For the purpose of this analysis, the new residences will be developed to include a mixture of multi-family units (962 units) and new townhouses (141 units). In total, 1,103 new residential units ultimately could be constructed as summarized in Table 2. In addition to the new residential use, an approximately 100,000 sf fitness/health club is proposed to be constructed on Parcel 9a. Some existing office buildings also will continue to operate within the MIRROD as shown in Table 2. A graphic depicting the general location of the MIRROD developments parcels is provided in the Attachments to this memorandum.

**Table 2 Proposed MIRROD Development Summary**

Address	Proposed Parcel	Existing office/R&D-lab to remain <sup>1</sup>	Commercial (Fitness/health club) <sup>1</sup>	Multi-family units		Residential Total Units
				units	Townhouses	
1050 Winter Street	1	162,000				
1100 Winter Street	2			283		283
880/1100 Winter Street	3				141	141
880 Winter Street (office)	4	87,341				
880 Winter Street (lab)	4	131,011				
890 Winter Street	5	176,664				
870 Winter Street	6	204,750				
860 Winter Street	7a	162,650				
890 BEF Winter Street	7b					
1100 Winter Street	8a			294		294
1100 Winter Street	8b			100		100
1000 Winter Street	9a		100,000			
1000 Winter Street	9b	282,014		285		285
950 Winter Street	10	278,150				
<b>Total</b>		<b>1,484,580</b>	<b>100,000</b>	<b>962</b>	<b>141</b>	<b>= 1,103</b>

<sup>1</sup> Office, research & development, laboratory, and commercial (fitness/health club) building area measured in square feet (sf).

In addition to the primary residential use and new fitness/health club use, there may also be ancillary supporting commercial or retail uses. These may include uses such as small office, neighborhood-level retail stores, and restaurants/cafes, among other uses. As the details of these accessory development uses are still in preliminary stages, the following analysis is based solely on the additional traffic generated by the primary residential use and facility proposed within the MIRROD. It is expected that these uses would be complimentary to the primary residential development, so a substantial portion of those uses traffic generation should be in the form of shared trips with the on-site residents. This will be evaluated in detail as part of the subsequent Special Permit TIA submission.

### Trip Generation

The rate at which any development generates traffic is dependent upon several factors such as size, location, and concentration of surrounding developments. As previously mentioned, the Project development is expected to include 1,103 new residential units being constructed within the MIRROD development area. Trip generation estimates for the Project were developed based on standard Institute of Transportation Engineers' (ITE) data<sup>1</sup>. Specifically, trip generation was estimated using ITE data for Land Use Code (220) – Multifamily Housing (low-rise) and LUC 221 – Multifamily Housing (mid-rise). While ITE does provide data for health clubs/gyms, the database associated with them is focused on smaller-sized developments. With this in mind, trip generation for the new fitness/health club use was estimated based on traffic counts of two existing comparable facilities in Massachusetts. The estimated trip generation for the proposed Project is summarized in Table 3 and calculations are included in the Attachments.

<sup>1</sup> Trip Generation Manual – 12<sup>th</sup> Edition; Institute of Transportation Engineers (Washington, D.C.); 2025.

**Table 3 Project Trip Generation (additional MIRROD traffic)**

Time Period	Townhouses <sup>1</sup>	Multi-family units <sup>2</sup>	Residential Subtotal	Fitness / health club	Total
<b>Weekday daily</b>					
Enter	458	2,180	2,638	1,372	4,010
<u>Exit</u>	<u>458</u>	<u>2,180</u>	<u>2,638</u>	<u>1,372</u>	<u>4,010</u>
Total	916	4,360	5,276	2,744	8,020
<b>Weekday morning peak hour</b>					
Enter	15	91	106	102	208
<u>Exit</u>	<u>47</u>	<u>305</u>	<u>352</u>	<u>51</u>	<u>403</u>
Total	62	396	458	153	611
<b>Weekday evening peak hour</b>					
Enter	47	223	270	185	455
<u>Exit</u>	<u>28</u>	<u>126</u>	<u>154</u>	<u>97</u>	<u>251</u>
Total	75	349	424	282	706
<b>Saturday daily</b>					
Enter	321	2,069	2,390	1,318	3,708
<u>Exit</u>	<u>321</u>	<u>2,069</u>	<u>2,390</u>	<u>1,318</u>	<u>3,708</u>
Total	642	4,138	4,780	2,636	7,416
<b>Saturday midday peak hour</b>					
Enter	26	177	203	104	307
<u>Exit</u>	<u>43</u>	<u>170</u>	<u>213</u>	<u>179</u>	<u>392</u>
Total	69	347	416	283	699

Source: Trip Generation Manual (12th edition), Institute of Transportation Engineers (ITE), Washington, DC, 2025.

- 1 Trip generation estimate based on ITE LUC 220 – Multifamily housing (low-rise) for 141 units.
- 2 Trip generation estimate based on ITE LUC 221 – Multifamily housing (mid-rise) for 962 units.
- 3 Trip generation for fitness/health club estimate based on counts of existing comparable facilities in Massachusetts.

As shown in Table 3, the overall Project is anticipated to generate 8,020 vehicle trips on a typical weekday with trip generation on Saturday being lower with 7,416 trips estimated. Peak hour trip generation is expected to range from 611 to 706 additional vehicle trips. This is in addition to the traffic generated by those existing office buildings which will remain in place as part of the establishment of the MIRROD. Furthermore, these estimates do not account for the potential internal sharing of trips between the various Project uses and travel to and from the MIRROD by means other than single-occupant automobile.

Potential deductions associated with these factors will be explored as part of the subsequent TIA. However, because a precise development program has not yet been finalized, the unadjusted estimates shown in Table 3 were used for this evaluation to provide an *extremely* conservative analysis.

Ultimately, during the weekday morning and evening peak hours, the majority of the new residential traffic will be exiting and entering, respectively. This will be the opposite of the predominant office/research & development/laboratory uses in the MIRROD area under existing conditions. The new fitness/health club facility is expected to follow a similar pattern to the residential units. This partial balancing of entering and exiting traffic should provide benefits to traffic operations in this area as opposed to a continued development of office/lab uses. Under that

scenario, there is a greater likelihood of certain roadway or intersection approaches becoming overburdened due to increased traffic arriving in one direction. While the Project will generate significant Saturday traffic volumes, the weekday morning and evening peak hours will remain the critical analysis periods due to the combination of MIRROD traffic and existing roadway traffic.

Lastly, while the fitness/health club use only will occupy one parcel, it is expected to generate between 25- and 40-percent of the additional MIRROD traffic shown in Table 3. Some of this traffic will be in the form of shared trips with the MIRROD office and residential uses or pass-by/"diverted-link trips" drawn from existing traffic on nearby roads. While ITE does not have data for health club/gym pass-by traffic, this will be explored in detail as part of the fitness/health club TIA. The volume of new trips generated by this use should be at least 25 percent, which will be confirmed at the time of the Special Permit filings for the proposed development.

### Trip Generation Comparison

The new residential development will occur on parcels occupied by office space, a significant portion of which is currently vacant. Without the proposed MIRROD rezoning, the potential for these buildings to be reoccupied by future office tenants which would be allowed to occur by right under the existing zoning. Accordingly, as part of the subsequent TIAs, trip generation for the by-right re-occupancy will be evaluated and quantified and the future "No-Build" condition considering this scenario considered.

To be clear, this current analysis focusses solely on the potential new impacts from the increased MIRROD-based traffic. However, VHB also estimated the trip generation associated with the full reoccupancy of the existing buildings and compared that to the trip generation for the current MIRROD proposal. The resulting trip generation comparison is summarized in Table 4.

**Table 4 Trip Generation Comparison – MIRROD vs. By-right Development**

Time Period	MIRROD – additional trips <sup>1</sup>	Existing office/lab space to remain <sup>2</sup>	Total MIRROD trips	By-right office/lab space	Difference
<b>Weekday daily</b>					
Enter	4,010	4,035	8,045	5,792	2,253
Exit	<u>4,010</u>	<u>4,035</u>	<u>8,045</u>	<u>5,792</u>	<u>2,253</u>
Total	8,020	8,070	16,090	11,584	4,506
<b>Weekday morning peak hour</b>					
Enter	208	1,123	1,331	1,683	-352
Exit	<u>403</u>	<u>160</u>	<u>563</u>	<u>237</u>	<u>326</u>
Total	611	1,283	1,894	1,920	-26
<b>Weekday evening peak hour</b>					
Enter	455	189	644	280	364
Exit	<u>251</u>	<u>962</u>	<u>1,213</u>	<u>1,434</u>	<u>-221</u>
Total	706	1,151	1,857	1,714	143
<b>Saturday daily</b>					
Enter	3,708	2,352	6,060	3,600	2,460
Exit	<u>3,708</u>	<u>2,352</u>	<u>6,060</u>	<u>3,600</u>	<u>2,460</u>
Total	7,416	4,704	12,120	7,200	4,920
<b>Saturday midday peak hour</b>					
Enter	307	509	816	779	37
Exit	<u>392</u>	<u>434</u>	<u>826</u>	<u>664</u>	<u>162</u>
Total	699	943	1,642	1,443	199

Source: Trip Generation Manual (12th edition), Institute of Transportation Engineers (ITE), Washington, DC, 2025.

- 1 MIRROD trip generation (as presented in Table 3) added to traffic generated by existing office uses.
- 2 Based on ITE LUC 710 (General Office Building) for 1,071,555 sf of building space and ITE 760 (Research and Development Center) for 131,011 sf of building space which will remain under the MIRROD development scenario.
- 3 Based on ITE LUC 710 (General Office Building) for 1,640,031 sf of building space and ITE 760 (Research and Development Center) for 131,011 sf of building space which currently exists within the proposed MIRROD area. Approximately 744,396 of currently vacant office space assumed to be reoccupied under the future by-right development scenario.

As shown in Table 4, the total anticipated MIRROD development (including those office buildings to remain) would generate 4,506 and 4,920 vehicle trips compared to the by-right scenario in which the existing office buildings within this area could be fully reoccupied. However, with the new uses and the balancing of entering and exiting volumes, the peak-hour increases would range between only 143 and 199 vehicle trips, with there actually being a decrease in trip generation during the weekday morning peak hour (26 fewer vehicle trips generated). As noted earlier, these are conservative estimates which do not yet consider the expected internal trip sharing between the office/lab and residential uses, as well as the fitness/health club. Once these shared trips are quantified, the volume of net new trips generated on the surrounding roadways outside of the MIRROD area will be lower than that shown above.

### Trip Distribution

The directional distribution of traffic approaching and departing the Site is a function of several variables. These include population densities, existing travel patterns, and the efficiency of the roadways leading to and from the Site. Trips made from and to the Site during the peak hours are expected to be predominantly home-to-work and work-to-home trips during the critical respective weekday morning and evening peak hours. Accordingly, the final trip distribution for the proposed Project ultimately will be based on the most recently available U.S. Census data. However, for the purpose of this analysis, the Project regional trip distribution should be similar to that of other nearby proposed residential developments. This distribution also will be reflective of planned roadway improvements in this area which have not yet been constructed yet.

The majority of the fitness/health club users typically travel under a 15-minute drive time to a facility. As such, a separate trip distribution analysis will be conducted as part of the permitting of this use. For the purpose of this current analysis, the fitness/health club trip distribution is expected to be similar to that of the new residential users.

Ultimately, all Project traffic will be travelling to and from the Site via Winter Street. While this is a two-roadway within Waltham, it is one-way northbound departing Waltham into the abutting Town of Lincoln. This restriction for entering Site traffic is reflected in the distribution, with that traffic instead arriving via I-95 from the north. Some degree of MIRROD traffic likely will be travelling to and from the Site via West Street, Second Avenue, and other local connector roadways. Refinements reflecting that potential trip assignment will be evaluated as part of the subsequent TIA. For the purpose of this analysis, the more global estimates summarized in Table 5 were utilized.

**Table 5 Regional Trip Distribution**

Route	Direction (To/From)	Trip Distribution	
		Entering	Exiting
I-95	North	30%	20%
I-95	South	35%	35%
Totten Pond Road	East	30%	30%
Wyman Street	North	5%	5%
Winter Street	North	0%	10%
		<b>100%</b>	<b>100%</b>

### Planned Transportation Improvements

The following planned transportation improvements projects are expected to affect traffic operations in the vicinity of the Site.

#### 1265 Main Roadway Improvements

As part of the 1265 Main Street project, significant roadway improvements and modifications are proposed to the existing I-95 Exits 41 and 43A as well as associated improvements along the adjacent local streets. This project includes the components listed below. The Exit 43A ("Third Avenue") improvements recently completed and the improvements at Exit 41 are currently in the design process.

## Exit 41 – in design

- › Route 117 Bridge replacement / widening and associated improvements;
- › Green Street Connector and Route 20 interchange (Interchange 26) improvements; this work will be undertaken by BXP as part of the establishment of the new MIRROD;
- › Creating a cul-de-sac on Stow Street;
- › Constructing a new I-95 North on-ramp from Main Street (Route 117);
- › Permanently creating a Border Road/Fifth Avenue connection;
- › Removal of I-95 North on-ramp from Route 20 Westbound; and
- › MCRT Connection: As part of the improvements, a shared use path will be provided from the current terminus of the Mass Central Rail Trail (MCRT), through the intersection of Green Street at Bear Hill Road, continuing south along the Green Street Connector. This connection will serve as an extension of the MCRT, which will be further extended as part of this Project.

The proposed modifications are planned to address both existing and future traffic congestion and safety issues in the area, as well as provide more direct connections to the regional roadway network resulting in changes to existing trip patterns. The design and construction of these improvements are being funded through contributions from a number of private developers led by BXP, the City, and through the Commonwealth of Massachusetts.

## Study Area

The Project study area for the subsequent TIA(s) will be determined through consultation with the Waltham Traffic Engineering Department and other stakeholders. With all Site traffic travelling on Winter Street to access and egress the Site, the study area will be comprised of key intersections within the City of Waltham along this corridor where any Project impacts would be most apparent. Based on recent experience, the primary study area should include the following locations:

- › Winter Street at:
  - Various site driveways – unsignalized
  - West Street – *signalized*
  - First Avenue – *signalized*
  - Winter Street eastbound at Second Avenue / I-95 South on-ramp – *signalized*
  - Winter Street westbound at Second Avenue / I-95 South on-ramp – *signalized*
  - Totten Pond Road at Wyman Street / Third Avenue / I-95 North ramps – *signalized*
  - Wyman Street/I-95 ramps & private driveway – *signalized*
  - *Old County Road (in Lincoln) - unsignalized*
- › Wyman Street at I-95 North ramps – *signalized*
- › Third Avenue at the I-95 North ramps & Prospect Hill Lane – *signalized*
- › West Street at Atwater Lane

A graphic depicting this potential study area is provided in the Attachments to this memorandum. While the City Traffic Engineer and other stakeholders may request additional areas to be studied, those likely will be along the

periphery of the study area. While the MIRROD development wouldn't be adding traffic to the critical intersection movements, the City may want to document impacts at these locations.

### Potential Transportation Mitigation

While the final nature of any off-site transportation mitigation will be determined by the City of Waltham (through the Traffic Commission and City Council) and potentially MassDOT, the proponent may be required to implement the following improvements as mitigation for the MIRROD development. The allocation and phasing of how these mitigation measures are phased into the surrounding roadway network should be tied to development thresholds as each phase of the individual MIRROD development elements are studied. The potential mitigation identified below is based on VHB's knowledge of the current transportation network and other studies conducted in the general area of the Project site, but may need to be modified as the project advances through the City's Special Permit process.

#### Winter Street eastbound at Second Avenue / I-95 South on-ramp

Under future 2029 conditions (with other known development projects and planned roadway improvements in place) the eastbound Winter Street approach is expected to operate at level of service (LOS) A and E during the respective weekday morning and evening peak hours. The new MIRROD residential development will likely add approximately 363 vehicles to this movement during the weekday morning peak hour. While that volume is not insignificant, the signal should remain under capacity while functioning at LOS B. During the weekday evening peak hour, the MIRROD development will be adding roughly 226 vehicles to this approach. While that is a lesser volume than the weekday morning peak hour trip assignment, this will have more perceptible impacts as this location already will be at capacity. Improvements to the signal operation to offset these impacts will likely be required. Similar mitigation already has been assigned to other private-sector development projects in the area (most recently a commercial development at 55 First Avenue), but the status of when or if those improvements will be implemented is uncertain. Improvements likely will include now having the two Second Avenue signals operating under a single controller with improved communication and coordination with other signals along the Winter Street corridor.

#### Winter Street westbound at Second Avenue / I-95 South on-ramp

Under future 2029 conditions (with other known development projects and planned roadway improvements in place) the westbound Winter Street approach is expected to operate at LOS D and B during the weekday morning and evening peak hours. During the weekday morning peak hour, the MIRROD development will add 208 vehicles to this movement. With three through-lanes provided on that approach to the signal, this traffic should readily be accommodated by the signal as currently configured. During the weekday evening peak hour, the Project will add approximately 455 vehicles to this approach. This approach should continue to function at LOS B due to the multiple lanes provided. Regardless of the limited impacts viewing this as an isolated location, this signal will operate in a coordinated manner with the Winter Street eastbound signal immediately to the south (and discussed above).

#### Winter Street at First Avenue

The most significant MIRROD impacts to this intersection should be on the eastbound Winter Street approach. This approach is projected to operate at LOS D and F during the respective weekday morning and evening peak hours. The new MIRROD residential development will likely add approximately 363 vehicles to this movement during the weekday morning peak hour. This movement is projected to degrade to LOS F with manageable vehicle queues. However, this approach and the overall intersection now will be operating over capacity with the addition of MIRROD

traffic. The new MIRROD trips added to the approach during the weekday evening peak hour should be roughly 226 vehicles. This approach already is projected to be operating over capacity at LOS F, so this condition will be exacerbated with the addition of any traffic. Adding additional travel lanes on this approach is not feasible, but new signal equipment and coordination improvements with the Second Avenue signals to the east could help mitigate Project impacts and address existing deficiencies.

### Winter Street /Totten Pond Road at Wyman Street / Third Avenue / I-95 northbound ramps

This location was recently evaluated under future conditions (with other known development projects and planned roadway improvements in place) for a 2032 horizon year as part of another nearby traffic study. The evaluation indicated that this location will operate at LOS E and F during the respective weekday morning and evening peak hours. With multiple movements operating at or near capacity during both peak periods, any added traffic will have perceptible impacts. However, the MIRROD development traffic will be dispersed among multiple movements. For instance, the anticipated 250 vehicles arriving from the west during the weekday morning peak hour will not all directly be passing through the intersection under the same movements. Some traffic will be turning right onto the I-95 North ramp, with minimal anticipated delays. Roughly 135 vehicles will be continuing straight to Totten Pond Road using the two through lanes. This movement is projected to operate at LOS E and D during the respective weekday morning and evening peak hours. The additional MIRROD traffic likely will cause this movement to degrade further during both critical peak hours. The Project also will be adding roughly 115- and 73 vehicles to the left-turn movement onto I-95 North. This movement already is projected to be operating at LOS E during both peak hours. With these demonstrated impacts, some level of mitigation should be expected. However, with its location on the opposite side of the I-95/Winter Street intersection near other planned projects, the MIRROD development should not be required to fully mitigate this location. Instead, a fair-share level of improvement to improve signal equipment may be required to help offset project impacts. Other nearby development projects already are committed to mitigation at this location.

### General Mitigation Measures

The following mitigation measures also likely will be required in conjunction with any new MIRROD development.

- › Site circulation needs will also need to be defined and accommodated for all modes within the new MIRROD development sites. Pedestrian and bicycle accommodations need to be provided within the MIRROD to be compatible with the new residential uses. This will include crosswalks, sidewalks, and bicycle routes and accommodations (and bicycle parking facilities) along with other multimodal accommodations.
- › A Transportation Demand Management (TDM) program will need to be developed for each MIRROD component. While residential developments typically are not able to achieve the same level of effectiveness as TDM programs for commercial uses, some TDM measures should still be implemented. These measures may include working with the Route 128 Business Council Transportation Management Association (TMA) to provide public transportation for Site residents. While the TMA operates the A6 Alewife and W1 Waltham shuttle routes in the area, these services are provided in only one direction from Alewife Station and Waltham Center to Route 128 businesses during the weekday morning peak, and from businesses to the MBTA stations during the weekday evening peak. To enable these services to be utilized by Site residents for commutes in the reverse direction, a stop should be added at a central location within the MIRROD, and the shuttles should operate in both directions instead of “deadheading”. Additionally, a shuttle route that connects businesses and residences throughout the TMA service area may be considered. Shuttles are usually provided as the final

step of a transit trip from home to work. With the new MIRROD uses primarily being residential, the new uses should not trigger the need for substantial improvements. However, any existing office uses involved with parcels being permitted could spur discussions of financial contributions towards shuttle service (beyond any potential Traffic Safety and Infrastructure Maintenance Fund payments).

- › Mitigation for the MIRROD development will be identified during the local permitting process.

## City of Waltham Permitting and Transportation Requirements

### Special Permit and Transportation Impact Assessment (TIA)

Although the MIRROD zoning is intended to allow the proposed residential and related uses, individual projects will require a Special Permit from the City. The Special Permit process is expected to include one or more Transportation Impact Assessments (TIAs), prepared in consultation with the Waltham Traffic Engineering Department and other stakeholders. These TIAs will:

- › Confirm trip generation and distribution for each project component (including the fitness/health club facility);
- › Refine the study area and intersection analysis based on then-current conditions; and
- › Identify project-specific and fair-share off-site mitigation, and the phasing of such improvements relative to development build-out.

These studies would be circulated through the typical submission review process with the City, outlining each element of the Project for action by the City departments.

### MassDOT Permitting

Beyond the local review of the Project, it has been noted that the development parcels are located near I-95 but do not abut a state highway layout that is directly under MassDOT jurisdiction. Nonetheless, some potential off-site mitigation - such as improvements at the I-95 ramp intersections - could occur on or affect MassDOT-controlled facilities.

This could occur if future MIRROD phases propose mitigation that:

- › Modifies access to or operations at I-95 ramps or other MassDOT facilities, and
- › Requires issuance of a MassDOT access or construction permit,

Under those circumstances, the applicable MassDOT permit process will be followed, including submission of supporting traffic analysis and coordination with MassDOT staff.

Specific MassDOT permitting needs will be determined as detailed mitigation concepts are developed during subsequent TIAs and in consultation with MassDOT.

### Massachusetts Environmental Policy Act (MEPA) Review

Under typical circumstances, MEPA review is triggered when a project:

- › Requires a state permit (such as a MassDOT access permit), and

- › Exceeds certain MEPA transportation or development thresholds (e.g., trip generation, parking, or square footage).

For the MIRROD area, MEPA review is not automatically triggered by the rezoning itself, nor by the Project's proximity to I-95, because the Site does not directly abut a MassDOT layout. However, MassDOT and MEPA have, in certain isolated circumstances, determined that a project may require MEPA review when:

- › Mitigation is proposed at a MassDOT jurisdiction location (such as an I-95 ramp);
- › A MassDOT permit is required for that work; and
- › The overall trip generation and scope of the project meet or approach MEPA transportation thresholds.

Whether MEPA review is required will therefore be highly dependent on the specific MIRROD project phase being permitted at the time, the nature and extent of proposed mitigation on MassDOT facilities, and the project's cumulative transportation impacts. The trip generation estimates presented in this memorandum represent the overall MIRROD zoning area, and future TIAs will refine these estimates and confirm MEPA applicability in coordination with the City, MassDOT, and the MEPA Office.

## Conclusion / findings

The proposed Mixed Innovation and Residential Redevelopment Overlay District (MIRROD) would convert largely underutilized office parcels within the Bay Colony area into a predominantly residential neighborhood comprising approximately 1,103 units (962 multifamily units and 141 townhomes), along with a 100,000 sf fitness/health club and selected existing office/R&D/laboratory uses to remain. This preliminary transportation evaluation has assessed the likely traffic generation, distribution, and high-level operational effects of this development program, as well as the general nature of mitigation and permitting requirements that can be anticipated.

Based on Institute of Transportation Engineers (ITE) trip generation methodologies and conservative assumptions that do not yet account for internal capture, mode shift, or shared trips, the Project is estimated to generate approximately 8,020 weekday and 7,416 Saturday vehicle trips, with peak-hour volumes ranging from 611 to 706 vehicle trips. These trips will primarily use I-95, Totten Pond Road, and Wyman Street, with access concentrated along Winter Street, reflecting the one-way northbound restriction into Lincoln and the regional roadway configuration.

Compared to a scenario in which existing office space was reoccupied under by-right conditions, the MIRROD program is expected to partially rebalance inbound and outbound peak-hour flows, offering some operational advantages relative to a purely office-based build-out. The overall MIRROD development, including the reoccupancy of the office space which will remain, would generate an additional 4,506 and 4,920 vehicle trips compared to the by-right scenario with all existing office buildings within the MIRROD area being fully reoccupied. The increase in peak hour trip generation would be 143 and 199 vehicle trips during the weekday evening and Saturday midday peak hours, respectively. Trip generation during the weekday morning peak hour would be expected to decrease by approximately 26 fewer vehicle trips compared to the by-right scenario. The volume of net new trips will be further reduced once the expected internal trip sharing between the office/lab and residential uses, as well as the fitness/health club, are quantified. Once these shared trips have been evaluated, the volume of net new trips generated on the surrounding roadways outside of the MIRROD area will be lower than that presented in this current evaluation.

Operationally, several key intersections within the Winter Street and Totten Pond Road corridors are projected to experience continued congestion in future conditions even without the Project, including locations such as the Winter Street/Second Avenue/I-95 South ramps and the Totten Pond Road/Wyman Street/I-95 North ramp intersection. MIRROD-related traffic will contribute additional vehicles to these already constrained locations, particularly along critical through- and left-turn movements. As a result, the Project can be expected to have perceptible impacts on operations at these intersections. In light of this, potential targeted off-site mitigation measures will be evaluated, including improvements to signal timing and coordination along Winter Street (such as unified control and communications for the Second Avenue signals), and fair-share contributions toward signal equipment upgrades at Totten Pond Road/Wyman Street/I-95 North ramps, recognizing that other developments are already contributing to improvements at this location.

In addition to off-site measures, the MIRROD development will be expected to incorporate on-site circulation and multimodal accommodations appropriate for a mixed-use residential district, including internal sidewalks, crosswalks, bicycle routes and parking, and provisions for safe access by all modes. Each component of the development will implement a Transportation Demand Management (TDM) program, which may include coordination with the Route 128 Business Council TMA to add a central MIRROD shuttle stop and pursue bidirectional shuttle operations, thereby improving transit access for residents.

Targeted local improvements may also be necessary along local roadways, including the Project site driveways (and other driveways along Winter Street to commercial projects), and with surrounding local residential streets if it is so determined that a combination of the project impacts along with the existing conditions warrant those actions. Those activities would be determined through the actual local transportation studies.

Finally, while the Project is located adjacent to I-95, it does not directly abut a MassDOT-controlled layout. MassDOT access permitting and potential Massachusetts Environmental Policy Act (MEPA) review may be required in circumstances where Project-phased mitigation is proposed on MassDOT facilities (such as the I-95 ramps), and where trip generation and permitting thresholds are met. These requirements, along with the detailed nature, phasing, and allocation of off-site mitigation, will be defined more precisely through one or more subsequent Transportation Impact Assessments prepared in support of the City's Special Permit process. As such, this memorandum should be regarded as a conservative, planning-level assessment that identifies the scale and general character of potential transportation impacts and mitigation associated with the MIRROD rezoning, providing a framework for more detailed future analysis and coordination with the City of Waltham, MassDOT, and other stakeholders.

## ATTACHMENTS

- **Figure 1 – Conceptual MIRROD Parcels**
  
- **Figure 2 – Primary Study Area**
  
- **Trip generation worksheets**

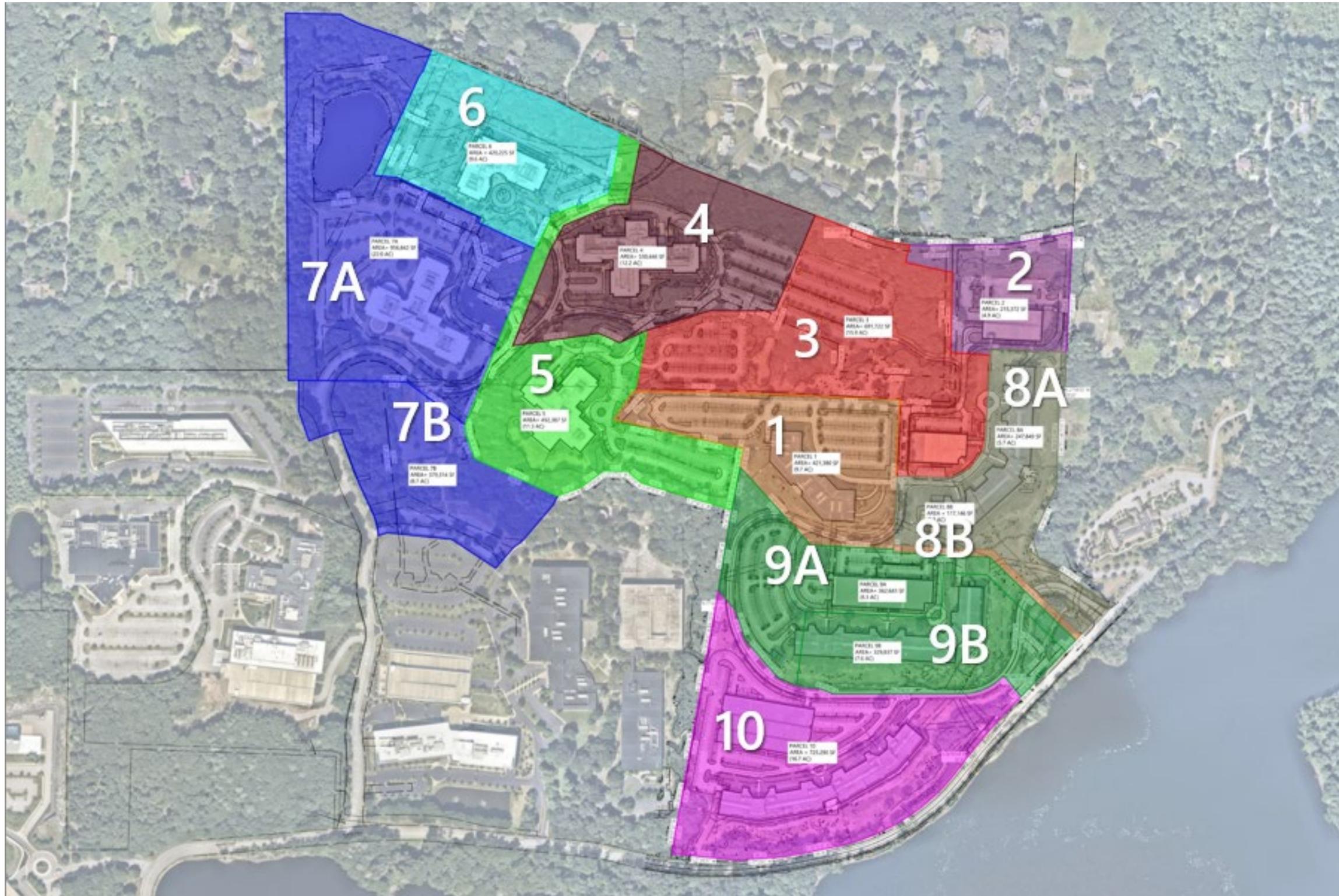


Figure 1  
Conceptual MIRROD parcels

**MIRROD**  
Waltham, Massachusetts



Source: Waltham GIS mapping; 2026.

Note: Potential study area also includes West Street/Atwater Lane intersection in Waltham to the north of the Town of Weston border and Old County Road to the north in the Town of Lincoln.



Figure 2  
Primary Study Area

**MIRROD**  
Waltham, Massachusetts

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**Trip Generation Worksheets**

Existing					Proposed					
Parcel	Land Use	Land use (all office except as noted)	size	occupancy (100% except where noted)	parking spaces	Multi-family units	Townhouses	Residential Total Units	fitness/ health club	Office/lab to remain (future full occupancy)
1	1050 Winter Street		162,000	162,000	625					162,000
2	1100 Winter Street		0	0	462	283		283		
3	880/1100 Winter Street		0	0	758		141	141		
4	880 Winter Street		87,341	87,341	398					87,341
4	880 Winter Street	lab	131,011	131,011 (inc. above)						131,011
5	890 Winter Street		176,664	176,664	393					176,664
6	870 Winter Street		204,750	0	416					204,750
7a	860 Winter Street		162,650	0	626					162,650
7b	890 BEF Winter Street		0	0	185					0
8a	1100 Winter Street		211,982	80,000	0	294		294		
8b	1100 Winter Street		74,480	74,480	0	100		100		
9a	1000 Winter Street		0	0	800				100,000	
9b	1000 Winter Street		282,014	37,000	0	285		285		
10	950 Winter Street		278,150	278,150	859					278,150
Total			1,771,042	1,026,646	5,522	962	141	1,103	100,000	1,202,566

- Based on BXP development program emailed to VHB 2/2/2026.

Office / lab space:				
Lab / R&D total:		131,011	131,011	131,011
office total:		1,640,031	895,635	1,071,555
<b>Total</b>		<b>1,771,042</b>	<b>1,026,646</b>	<b>1,202,566</b>

Note: Lab % of existing development program: 7.4%

Trip Generation - Proposed total

Land Use	Proposed new uses					Existing uses to remain				By-right reoccupancy of existing buildings			Difference (proposed MIRROD - by-right)
	Multifamily Housing (Low-Rise)	Multifamily Housing (Mid-Rise)	Residential Total	fitness / health club	Total new uses	Office (future full occupancy)	Lab (future full occupancy)	Office / Lab Total	Total MIRROD	Office	Lab / R&D	Office / Lab Total	
Units =	141	962	1,103	100,000		1,071,555	131,011	1,202,566		1,640,031	131,011	1,771,042	
Transit: LUC	not close 220	not close 221		empirical									
<b>Weekday Daily</b>													
Enter	458	2,180	2,638	1,372	4,010	3,415	620	4,035	8,046	5,172	620	5,792	2,254
Exit	458	2,180	2,638	1,372	4,010	3,415	620	4,035	8,046	5,172	620	5,792	2,254
<b>Total</b>	<b>916</b>	<b>4,360</b>	<b>5,276</b>	<b>2,744</b>	<b>8,020</b>	<b>6,830</b>	<b>1,241</b>	<b>8,071</b>	<b>16,091</b>	<b>10,343</b>	<b>1,241</b>	<b>11,584</b>	<b>4,507</b>
<b>Weekday AM</b>													
Enter	15	91	106	102	208	1,074	49	1,123	1,331	1,634	49	1,683	(352)
Exit	47	305	352	51	403	146	14	160	564	223	14	237	327
<b>Total</b>	<b>62</b>	<b>396</b>	<b>459</b>	<b>153</b>	<b>612</b>	<b>1,220</b>	<b>63</b>	<b>1,283</b>	<b>1,895</b>	<b>1,857</b>	<b>63</b>	<b>1,920</b>	<b>(25)</b>
<b>Weekday PM</b>													
Enter	47	224	270	185	455	175	15	189	645	265	15	280	365
Exit	29	126	154	97	252	917	44	961	1,213	1,390	44	1,434	(221)
<b>Total</b>	<b>75</b>	<b>349</b>	<b>424</b>	<b>283</b>	<b>707</b>	<b>1,092</b>	<b>59</b>	<b>1,151</b>	<b>1,858</b>	<b>1,655</b>	<b>59</b>	<b>1,714</b>	<b>144</b>
<b>Saturday Daily</b>													
Enter	321	2,069	2,390	1,318	3,708	2,352	--	2,352	6,060	3,600	--	3,600	2,460
Exit	321	2,069	2,390	1,318	3,708	2,352	--	2,352	6,060	3,600	--	3,600	2,460
<b>Total</b>	<b>642</b>	<b>4,138</b>	<b>4,780</b>	<b>2,635</b>	<b>7,415</b>	<b>4,704</b>	<b>--</b>	<b>4,704</b>	<b>12,120</b>	<b>7,200</b>	<b>--</b>	<b>7,200</b>	<b>4,920</b>
<b>Saturday Midday</b>													
Enter	26	177	203	104	306	509	--	509	816	779	--	779	36
Exit	43	170	213	179	391	434	--	434	825	664	--	664	161
<b>Total</b>	<b>69</b>	<b>346</b>	<b>415</b>	<b>283</b>	<b>698</b>	<b>943</b>	<b>--</b>	<b>943</b>	<b>1,641</b>	<b>1,443</b>	<b>--</b>	<b>1,443</b>	<b>198</b>

Note: ITE data unavailable for LUC 760 R&D Center for Saturday conditions.

**ITE TRIP GENERATION WORKSHEET**  
*(12th Edition)*

**LANDUSE:** Multi-Family Housing (Low-Rise): 2-3 Story - Not Close to Rail Transit  
**LANDUSE CODE:** 220 Independent Variable --- Number of Dwelling Units  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** **MIRROD** 141 units  
**JOB NUMBER:** **15642.02**

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	28	0.70	6.21	2.46	12.50	208	33	450	50%	50%
AM PEAK OF GENERATOR	25	0.84	0.47	0.26	0.73	161	12	450	27%	73%
PM PEAK OF GENERATOR	24	0.84	0.62	0.25	1.26	151	12	450	60%	40%
AM PEAK (ADJACENT ST)	51	0.81	0.41	0.13	0.73	219	12	689	24%	76%
PM PEAK (ADJACENT ST)	61	0.83	0.52	0.08	1.04	215	12	689	62%	38%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	876	438	438	916	458	458
AM PEAK OF GENERATOR	66	18	48	67	18	49
PM PEAK OF GENERATOR	87	52	35	88	53	35
AM PEAK (ADJACENT ST)	58	14	44	62	15	47
PM PEAK (ADJACENT ST)	73	45	28	75	47	29

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	4.55	4.55	4.55	282	282	282	50%	50%
PEAK OF GENERATOR	2	--	0.49	0.41	0.92	167	52	282	38%	62%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	642	321	321	--	--	--
PEAK OF GENERATOR	69	26	43	--	--	--

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	3.86	3.86	3.86	282	282	282	50%	50%
PEAK OF GENERATOR	1	--	0.36	0.36	0.36	282	282	282	55%	45%

**TRIPS:**

	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	546	273	273	--	--	--
PEAK OF GENERATOR	51	28	23	--	--	--

**ITE TRIP GENERATION WORKSHEET**  
**(12th Edition)**

**LANDUSE:** Multifamily Housing (Mid-Rise) - Not Close to Rail Transit: 4-10 stories  
**LANDUSE CODE:** 221 Independent Variable --- Number of Dwelling Units  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** **MIRROD** 962 dwelling units  
**JOB NUMBER:** **15642.02**

**WEEKDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	7	0.90	4.46	3.76	5.40	192	60	298	50%	50%
AM PEAK OF GENERATOR	11	0.80	0.34	0.13	0.53	194	26	556	20%	80%
PM PEAK OF GENERATOR	11	0.95	0.39	0.25	0.58	205	26	556	63%	37%
AM PEAK (ADJACENT ST)	20	0.87	0.38	0.15	0.67	184	26	491	23%	77%
PM PEAK (ADJACENT ST)	21	0.92	0.38	0.26	0.57	179	26	491	64%	36%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		4,292	2,146	2,146	4,360	2,180	2,180
AM PEAK OF GENERATOR		327	65	262	296	59	237
PM PEAK OF GENERATOR		375	236	139	314	198	116
AM PEAK (ADJACENT ST)		366	84	281	396	91	305
PM PEAK (ADJACENT ST)		366	234	132	349	224	126

**SATURDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	2	--	4.30	4.03	4.50	266	234	298	50%	50%
PEAK OF GENERATOR	2	--	0.36	0.34	0.37	266	234	298	51%	49%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		4,138	2,069	2,069	n/a	n/a	n/a
PEAK OF GENERATOR		346	177	170	n/a	n/a	n/a

**SUNDAY**

RATES:	# Studies	R <sup>2</sup>	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	2	--	3.65	3.06	4.12	266	234	298	50%	50%
PEAK OF GENERATOR	2	--	0.30	0.26	0.33	266	234	298	55%	45%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		3,512	1,756	1,756	n/a	n/a	n/a
PEAK OF GENERATOR		289	159	130	n/a	n/a	n/a

**ITE TRIP GENERATION WORKSHEET**  
**(12th Edition)**

**LANDUSE:** General Office Building  
**LANDUSE CODE:** 710  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** **MIRROD**  
**JOB NUMBER:** **15642.02**

Trip Type --- Vehicle  
 Independent Variable --- 1,000 Sq. Feet Gross Floor Area  
**FLOOR AREA (KSF):** 1,071.555

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	22	0.86	7.83	3.27	27.56	126	14	557	50%	50%
AM PEAK OF GENERATOR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PM PEAK OF GENERATOR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK (ADJACENT ST)	54	0.89	1.24	0.32	2.83	170	14	990	88%	12%
PM PEAK (ADJACENT ST)	53	0.89	1.18	0.26	2.59	166	14	990	16%	84%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		8,390	4,195	4,195	6,830	3,415	3,415
AM PEAK OF GENERATOR		n/a	n/a	n/a	n/a	n/a	n/a
PM PEAK OF GENERATOR		n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK (ADJACENT ST)		1,329	1,169	159	1,220	1,074	146
PM PEAK (ADJACENT ST)		1,264	202	1,062	1,092	175	917

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	4.39	4.39	4.39	35	35	35	50%	50%
PEAK OF GENERATOR	1	--	0.88	0.88	0.88	35	35	35	54%	46%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		4,704	2,352	2,352	--	--	--
PEAK OF GENERATOR		943	509	434	--	--	--

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	3.05	3.05	3.05	35	35	35	50%	50%
PEAK OF GENERATOR	1	--	0.68	0.68	0.68	35	35	35	58%	42%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		3,268	1,634	1,634	--	--	--
PEAK OF GENERATOR		729	423	306	--	--	--

**ITE TRIP GENERATION WORKSHEET**  
**(12th Edition)**

**LANDUSE:** Research & Development Center      Trip Type --- Vehicle  
**LANDUSE CODE:** 760      Independent Variable --- 1,000 Sq. Feet Gross Floor Area  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** **MIRROD**      **FLOOR AREA (KSF):** 131.011  
**JOB NUMBER:** **15642.02**

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	9.47	9.47	9.47	42	42	42	50%	50%
AM PEAK OF GENERATOR	--	--	--	--	--	--	--	--	--	--
PM PEAK OF GENERATOR	--	--	--	--	--	--	--	--	--	--
AM PEAK (ADJACENT ST)	13	--	0.48	0.17	2.19	123	10	331	78%	22%
PM PEAK (ADJACENT ST)	13	--	0.45	0.13	1.40	123	10	331	25%	75%

TRIPS:	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	1,241	620	620	--	--	--
AM PEAK OF GENERATOR	--	--	--	--	--	--
PM PEAK OF GENERATOR	--	--	--	--	--	--
AM PEAK (ADJACENT ST)	63	49	14	--	--	--
PM PEAK (ADJACENT ST)	59	15	44	--	--	--

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	--	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--	--	--	--	--

TRIPS:	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	--	--	--	--	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--	--	--	--	--

TRIPS:	BY AVERAGE			BY REGRESSION		
	Total	Enter	Exit	Total	Enter	Exit
DAILY	--	--	--	--	--	--
PEAK OF GENERATOR	--	--	--	--	--	--

**Fitness/health club empirical traffic generation rates**

100,000 sf

	Site 1 <sup>a</sup>	Site 2 <sup>b</sup>	Average	Average
<b>Weekday Daily</b>				
Enter	13.90	13.90	<b>13.72</b>	<b>1,372</b>
<u>Exit</u>	<u>13.90</u>	<u>13.19</u>	<u>13.72</u>	<u>1,372</u>
Total	27.80	27.08	<b>27.44</b>	<b>2,744</b>
<b>Weekday AM Peak Hour</b>				
Enter	1.15	0.89	<b>1.02</b>	<b>102</b>
<u>Exit</u>	<u>0.55</u>	<u>0.47</u>	<u>0.51</u>	<u>51</u>
Total	1.70	1.36	<b>1.53</b>	<b>153</b>
<b>Weekday Evening Peak Hour</b>				
Enter	1.48	2.23	<b>1.85</b>	<b>185</b>
<u>Exit</u>	<u>0.82</u>	<u>1.13</u>	<u>0.97</u>	<u>97</u>
Total	2.30	3.36	<b>2.83</b>	<b>283</b>
<b>Saturday Daily</b>				
Enter	14.01	12.88	<b>13.18</b>	<b>1,318</b>
<u>Exit</u>	<u>14.01</u>	<u>11.81</u>	<u>13.18</u>	<u>1,318</u>
Total	28.02	24.69	<b>26.35</b>	<b>2,635</b>
<b>Saturday Midday Peak Hour</b>				
Enter	1.00	1.07	<b>1.04</b>	<b>104</b>
<u>Exit</u>	<u>1.97</u>	<u>1.60</u>	<u>1.79</u>	<u>179</u>
Total	2.98	2.67	<b>2.83</b>	<b>283</b>

a - Data collected at MA site 1 in March 2017.

b - Data collected at MA site 2 in February 2018.

**ITE TRIP GENERATION WORKSHEET**  
**(12th Edition)**

**LANDUSE:** General Office Building  
**LANDUSE CODE:** 710  
**SETTING/LOCATION:** General Urban/Suburban  
**JOB NAME:** **MIRROD**  
**JOB NUMBER:** **15642.02**

Trip Type --- Vehicle  
 Independent Variable --- 1,000 Sq. Feet Gross Floor Area  
**FLOOR AREA (KSF):** 1,640.031

**WEEKDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	22	0.86	7.83	3.27	27.56	126	14	557	50%	50%
AM PEAK OF GENERATOR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PM PEAK OF GENERATOR	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK (ADJACENT ST)	54	0.89	1.24	0.32	2.83	170	14	990	88%	12%
PM PEAK (ADJACENT ST)	53	0.89	1.18	0.26	2.59	166	14	990	16%	84%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		12,841	6,421	6,421	10,343	5,172	5,172
AM PEAK OF GENERATOR		n/a	n/a	n/a	n/a	n/a	n/a
PM PEAK OF GENERATOR		n/a	n/a	n/a	n/a	n/a	n/a
AM PEAK (ADJACENT ST)		2,034	1,790	244	1,857	1,634	223
PM PEAK (ADJACENT ST)		1,935	310	1,626	1,655	265	1,390

**SATURDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	4.39	4.39	4.39	35	35	35	50%	50%
PEAK OF GENERATOR	1	--	0.88	0.88	0.88	35	35	35	54%	46%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		7,200	3,600	3,600	--	--	--
PEAK OF GENERATOR		1,443	779	664	--	--	--

**SUNDAY**

RATES:	# Studies	R^2	Total Trip Ends			Independent Variable Range			Directional Distribution	
			Average	Low	High	Average	Low	High	Enter	Exit
DAILY	1	--	3.05	3.05	3.05	35	35	35	50%	50%
PEAK OF GENERATOR	1	--	0.68	0.68	0.68	35	35	35	58%	42%

TRIPS:		BY AVERAGE			BY REGRESSION		
		Total	Enter	Exit	Total	Enter	Exit
DAILY		5,002	2,501	2,501	--	--	--
PEAK OF GENERATOR		1,115	647	468	--	--	--