East Milton Square Parking and Access Study

Prepared for
Town of Milton

Prepared by
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Howard/Stein-Hudson Associates, Inc.
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Introduction

East Milton Square is located near the eastern border shared by the Town of Milton and City of Quincy. Major roadways in the area include Adams Street which runs through the area east-to-west, and Bryant Avenue and Granite Avenue which run north-to-south. Running north-to-south through the center of the Square is I-93, the Southeast Expressway. While I-93 runs through the Square below grade, the roadway's presence is felt visually and aurally and forms a clear line between the eastern and western halves of the Square. The area is the largest of Milton's three business districts and is home to offices, several banks, the Milton Marketplace which combines a grocery store with several other smaller shops and an array of other retail and service businesses including cafes, hair and nail salons, and a fitness center. The areas immediately bordering on the Square are residential. The Square is served by three MBTA bus routes: 215, 217, and 245, but the area is generally accessed by automobile.

The purpose of the East Milton Square Parking and Access Study is to provide the Town's Board of Selectmen with a menu of options for the redesign of East Milton Square. These options are designed to address the following issues:

- Strengthen the connections between the east and west side of the Square over I-93.
- Address the widespread perception that the current supply of parking does not adequately serve local shops and offices.

In addressing these two major goals as defined by the Town, the project team has, in part through working with the community, come to recognize that options should also respect the small town character of the area and improve bicycle and pedestrian connections in the area. Additionally, while it is outside of the scope of this particular project, the consultant team is aware that cut-through traffic is an issue in the neighborhoods surrounding the Square. The options suggested herein have all been designed to ensure that cut-through traffic is not worsened, and hopefully improves, as a result of their implementation.

Specifically this report addresses:

- The goals and objectives developed for the project by the project team and the Business and Citizens' Advisory Committee (BCAC).
- The public involvement approach used by the project team to gather input from the BCAC, local residents and other key stakeholders.
- Existing conditions in East Milton Square in terms of parking, vehicle circulation, bicycle and pedestrian access.
- Short-, medium-, and long-range options to address the project goals.
- The recommendations of the project team and next steps.

Goals, Objectives, and Evaluation Criteria for the Project

Early interactions between the consultant team and the BCAC resulted in a comprehensive set of project goals, which were then translated into specific objectives and evaluation criteria against which the various options could be measured. These goals,[1] objectives and criteria include:

1. Goal: Provide demonstrable transportation benefits.

- Ease congestion in East Milton Square.
- Improve pedestrian access.
- Foster multi-modal connections.

Criteria:

- Does a Synchro model show shorter queues of waiting vehicles and improved Levels of Service (LOS) at study area intersections?
- Do members of the BCAC and community feel as though the chosen option will make them feel more comfortable as pedestrians?
- Are crossing distances shorter and pedestrian pathways through the square more direct and easy to navigate?
- Does the chosen option provide facilities for bicycles such as shared lanes; dedicate bicycle lanes, bicycle parking etc?
- Does the chosen option make the best possible use of existing MBTA bus service to encourage access of East Milton Square by Transit?

2. Goal: Address local concerns regarding parking

Criteria:

- Does the proposed option provide a supply of parking in alignment with the parking turn-over study outlined in the proposal?
- Does the proposed option supply parking where it is most needed to conveniently support local businesses?
- Does the proposed option make creative use of existing parking such as through sharing spaces? For example, a restaurant with primarily a dinner business could make use of office parking that's mostly vacant by 5:00 p.m.
- Does the proposed option identify short-term and long-term locations appropriate to add an amount of parking commensurate with the need identified in the turn-over study – *if appropriate?*
- Determine whether or not the perception that the current parking supply is inadequate is accurate.
- Determine how to use existing parking to the best advantage.
- If needed, develop a plan to provide additional parking.

3. Goal: Improve safety in East Milton Square for all users.

- Reduce the frequency and severity of crashes.
- Reduce the frequency and severity of conflict between the various transportation modes using the roadways of East Milton Square.

Criteria:

[1] Goals have been numbered for ease of reference only. Numbering does not denote priority; all goals are considered equal.

- Does the concept have the potential to reduce the frequency and severity of crashes in the area?
- Does the concept reduce the potential for conflict between vehicle movements?
- Does the concept reduce the potential for conflict between different transportation modes?

4. Goal: Protect surrounding residential areas

- Reduce or at a minimum avoid exacerbating existing cut-through traffic in the residential areas surrounding the square.
- Ensure that local streets do not become parking lots for East Milton Square businesses.

Criteria:

- Does the option create changes in traffic circulation that could negatively impact residential streets?
- Does the chosen option combine enhancements to main roadways to keep traffic on them and traffic calming elements in neighborhoods to protect them from cut-through traffic?
- Does the option adequately protect residential neighborhoods from parking by commercial patrons and employees?
- Does the Synchro model show that cut-through traffic declines or at least does not escalate particularly in those areas identified as cut-through routes by local residents.

5. Goal: Provide demonstrable environmental benefits.

- Improve air quality
- Improve the environment and access for pedestrians and cyclists.

Criteria:

- See transportation benefits regarding congestion/air quality.
- Does the concept improve the pedestrian environment by providing buffer zones between pedestrian spaces and adjacent travel lanes?
- Does the concept reduce traffic noise?
- Does the concept reduce the amount of impervious surface and associated stormwater runoff?
- Does the concept offer opportunities for sustainable practice in materials or methods?

6. Goal: Improve the aesthetics of East Milton Square and activate open spaces within the square.

- Develop an attractive wayfinding scheme for East Milton Square.
- Improve the square's overall streetscape.
- Determine the best use of the green space offered by the Honorable Joseph M. Manning community park.
- Reinvigorate existing green space and introduce new open space if possible.

Criteria:

- Does the wayfinding scheme meet with local approval?
- Are aesthetic treatments in keeping with the community's overall appearance? Are they appealing and inviting? Do they encourage people to sit and stay?
- Does the chosen option activate the Manning community park by offering improvements that make it a destination?
- Does the concept introduce new opportunities for open space, landscape/streetscape, public art, monuments etc.?

- Does the concept contribute to a sense of place or gateway spaces that tell people they have arrived in a center of Milton?
- Does the concept provide new and/or improved public spaces for civic functions?

7. Goal: Foster local business

- Maintain and strengthen the areas business climate.
- Ensure the right mix of businesses to mesh with the transportation goals of this project.

Criteria:

- Does the option create conditions that will support a broad mix of businesses in East Milton Square that can be accessed by the full range of transportation modes?
- Does the concept improve the economic environment, making the Square even more economically desirable?
- Does the concept make the area more vibrant in terms of retail?
- Does the concept make the area more desirable as a destination and place to work/live?

8. Goal: Develop a concept which takes into account projected land use changes over time.

- Ensure that any concept is in alignment with projected land use changes.

Criteria:

- Does the concept take into account projected future land uses?

9. Goal: Balance cost with benefit.

- Ensure that the cost of the proposed solution is aligned with the benefits conferred.

Criteria:

- Is the option a good value for what it provides? Much of this may be decided by the Town of Milton.
- Is the price great enough to inhibit the ability of the project to be built?

10. Goal: Offer options that lend themselves to a phased approach.

- Ensure that all options allow for early action steps to begin improving the Square as soon as possible. Ideal early action steps should be simple to implement and comparatively inexpensive.

Criteria:

- Does the option offer a stepped approach to solving the issues identified through the study thus allowing for progress in the short and long term?
- Does the option offer opportunities to be completed in a phased manner that maintains traffic circulation for users and access to businesses and residences?

Public Involvement Process

The consultant team has provided the Town of Milton with a public involvement process that actively sought community input to help direct and refine the outcome of this project. The public involvement efforts were organized into three interconnected and mutually-supporting tracks:

- Work with the BCAC to develop initial concepts to be shared with the broader community.
- Virtual outreach including a project website, a Face Book page, and Twitter feed. This effort served as an ongoing, two-way line of communication between the project team and the general public, broadcasting new information and gathering input before and between public meetings.
- A face-to-face outreach effort including briefings for state and local officials and broadly advertised meetings with members of the community

Throughout the public involvement process, HSH has coordinated its outreach efforts with the Town of Milton. The timing of all aspects of the public involvement process has been cleared with the Town in advance as has the content and appearance of all materials released to the public.[2]

Work with the BCAC

HSH began the public involvement process by meeting with the members of the BCAC. Throughout the public involvement effort, the BCAC played a central role to the project team assisting the in development of alternatives for East Milton Square, reviewing input obtained from meetings with the community, and refining project concepts based on that input. The Town of Milton constituted the membership for the BCAC and has made additions to the group as the process advanced. The BCAC served as the core of the project stakeholder database and mailing list, which HSH has maintained and updated throughout the course of the project.[3]

Throughout the public involvement process, the project team coordinated its efforts closely with the BCAC. An initial meeting was held in July 2010 with meetings held approximately every six weeks throughout the project. At the July 2010 meeting, the project team developed operational norms for its interactions with the BCAC such as preferred methods of communication, convenient meeting times etc. The meeting schedule was allowed to vary for thorough data collection and analysis, periods when it was difficult to assemble the BCAC such as over the winter holidays in December and January, and for other major project milestones such as meetings with the community. HSH has documented all BCAC meetings in the form of minutes which have been be posted to the project website with the permission of the members and Town of Milton.

Digital Outreach

The website developed for the East Milton Square Parking and Access Study has played a key outreach role. The site has its own unique address, easy to remember, and with a unique appearance developed by HSH and approved by the Town of Milton. This unique appearance helps to define the project and give it an identity in the eyes of the community at large. A prominent link to the Town's website has been displayed on the website to ensure a clear connection between the project and the Town of Milton. The project website has served as:

[2] The project team ensured that all materials, paper or electronic, to be released as part of the public involvement effort will be provided to William Clark, Director of Planning & Community Development, and any other members of his staff he would like to add as reviewers.
[3] The database is maintained in Microsoft's Excel as the software is widely distributed allowing easy sharing and allows for easy sorting for stakeholders by an array of categories.

- A 24-hour point of contact for the project that has allowed members of the public to learn about the project on their own time outside of scheduled public meetings.
- A method to ensure that the project maintains a community presence between public meetings.
- One of several methods through which members of the community have learned about upcoming public meetings.
- A repository for project documents such as presentations and minutes of meetings.
- A mechanism through which members of the public have added themselves to the stakeholder database and mailing list.

The website was launched in July 2010, shortly after the initial BCAC meeting. As the project has grown and developed over the course of the past eight months, the website has expanded and changed along with it, adding new data as appropriate. During the start-up phase of the website, prior to launch and in the period immediately thereafter, the team coordinated closely with the Town of Milton as to what appeared on the website. As the project has moved forward, certain maintenance activities become automatic and required minimal input from the Town

In addition to the website, three additional digital outreach tools were fielded in addition to the project website with the permission of the Town. These included:

- A Face Book page for the project. This proved be a useful tool for monitoring community thoughts about the project and seeking public feedback between meetings. The page also allowed the project team to alert users to upcoming meetings.
- An on-line survey. Two surveys were used in this project: one for BCAC members and one for local area merchants as defined by the Town of Milton. These simple surveys[4] were used not only to gauge opinions regarding parking in East Milton Square, other regional centers that serve as strong models for the Square and the main challenges confronting the project area..
- A Twitter account. Using 140 character "tweets" users were alerted to new web content and when community meetings were scheduled.

Face-to-Face Outreach

A face-to-face public involvement effort was also conducted, supported by the digital path outlined above, with both the general public and state and local officials.

State and Local Officials

State and local officials were informed on the status of the work in September of 2010 and March of 2011. By meeting with state and local officials, the project team ensured that their thoughts and concerns were incorporated into the project, and helped the project to gain the public's trust by working closely with their local leaders. State and local officials, both elected and appointed, were added to the project's mailing list and encouraged to attend both public and BCAC meetings. With the permission of the Town of Milton, meeting minutes were posted to the project website.

The General Public

[4] The online survey tool used by HSH provides survey hosting for free for surveys of ten questions or less. As the surveys used were more than ten questions, this triggered a monthly fee of $20. Of the three options in the bulleted list above, this is the only option which was not completely free.

Community meetings were held in November 2010 and March and May of 2011. At the first meeting, the community was presented with a review of the project team's findings regarding current conditions. In the following meeting, several alternatives for the Square developed by the BCAC were shared. At the final meeting, the locally preferred alternative was shared. Meeting minutes were posted to the website along with copies of the presentation.

Working with the Town of Milton

The Town and consultant team have cooperated fully to conduct a public involvement process that solicited and made real use of community input. At all steps of the process, the team has worked to ensure that materials given to the public are accurate and aligned with the Town's goals.

Existing Conditions and Issues Evaluation

A thorough understanding of existing conditions is fundamental to any planning study. For this reason, the consultant team spent time gathering and analyzing information about how East Milton Square is used today. This project area is shown in **Figure 1**.

Data Collection and Baseline Analysis

There have been a number of studies done over the years since the deck was built over I-93 (Southeast Expressway) in the mid-1990's. One of these in particular, the East Milton Business Revitalization Study, developed in the early 1990's, contributed to this project by serving as one of the initial long-term options discussed by the BCAC.

Early interactions with the community, particularly the first BCAC meeting (July 14, 2010) and the initial community meeting (November 3, 2010), were used to collect information on the key issues facing the area as perceived by local residents. The initial BCAC meeting was well-attended by community members and so was particularly helpful in developing this baseline picture. At these two meetings several issues came across clearly to the project team:

- Residents living the area around East Milton Square are concerned about the speed and volume of cut-through traffic on a variety of routes, including, but not limited to: Governors Road, Belcher Circle, Brackett Street, Babcock Street, Hollis Street, Bates Road, and Granite Place. Residents believe that much of this traffic comes from Quincy residents and users of I-93 seeking to avoid congestion on the highway.
- The timing of the Boulevard Street/Granite Avenue intersection is a source of consternation for local residents. While they believe that the timing of this light is required to discourage cut-through traffic and reduce speeds on Granite Avenue, it is acknowledged that this light also causes significant delays from Milton residents returning home from destinations further south on I-93.
- East Milton Square's retail is seen as lacking in the sort of diversity that would make the Square a shopping destination. At present, area shopping options are seen as overly concentrated on coffee shops and personal grooming.
- East Milton Square is seen as unfriendly to pedestrians and cyclists. Many local residents commented that they would like to walk to the Square from their homes, but often opt to drive due to the speed and volume of traffic on Adams Street, Granite Avenue, and Bryant Avenue. Residents would like to see a Square that is more welcoming of non-automobile modes of travel.
- Local business owners in particular believe that the demand for parking in the Square is far greater than the supply. This feeling is not necessarily shared by residents who are more concerned about cut-through traffic.

Figure 1. Study Area

Not to scale.

Land Uses and Zoning

Although East Milton Square is the largest business district and concentration of retail uses in the Town, it is still relatively small by comparison to other suburban business districts, including some which are seen as models for what Milton residents and the local business community would like the Square to be. The land uses in the business district are shown in **Figure 2.**

The retail area of the Square – almost entirely to the east of I-93 – stretches for less than two blocks along Adams Street, with the two-sided retail area, the heart of the Square and the most desirable retail environment, extending for only one block. While retail uses extend along Granite Avenue north and south of Adams Street for several blocks in each direction, they form a one-sided strip fronting the heavily trafficked, pedestrian-unfriendly environment of Granite Avenue, with the depressed Southeast Expressway just beyond.

The portions of the Granite Avenue frontage immediately north and south of Adams Street are reasonably well-connected to the retail core, but additional retail uses south of Mechanic Street and north of Antwerp Street are separated from this core area by the residential enclave at Mechanic Street and the Milton Marketplace parking lot, respectively.

The area's largest retail draw, the Milton Marketplace and the smaller shops that form part of the Marketplace complex, is surrounded by a sea of parking that separates it from the street and diminishes its connection to the other retail uses in East Milton Square.

To the west of I-93, the only commercial uses are the Jesson Professional Building on Adams Street, the Shell Gas Station, and the adjacent Jackrabbit Design building, plus the Post Office. Overall, the commercial land uses in East Milton Square, including retail and office/commercial uses, occupy some 243,331 gross square feet of floor area. The commercial sub-districts in East Milton Square are shown in **Figure 3.** With respect to the sub-districts, the retail area breakdown is shown in **Table 1:**

Table 1. Retail Areas

Location	Area (sf)
Retail Core	
Adams Street North (including Bassett Street)	84,709
Adams Street South (to Mechanic Street)	41,422
Subtotal	**126,131**
Other	
Granite Avenue North	23,304
Milton Marketplace	45,524
Granite Avenue South	20,500
West of I-93	27,872
Subtotal	**117,200**

Figure 2. Land Use in Business District

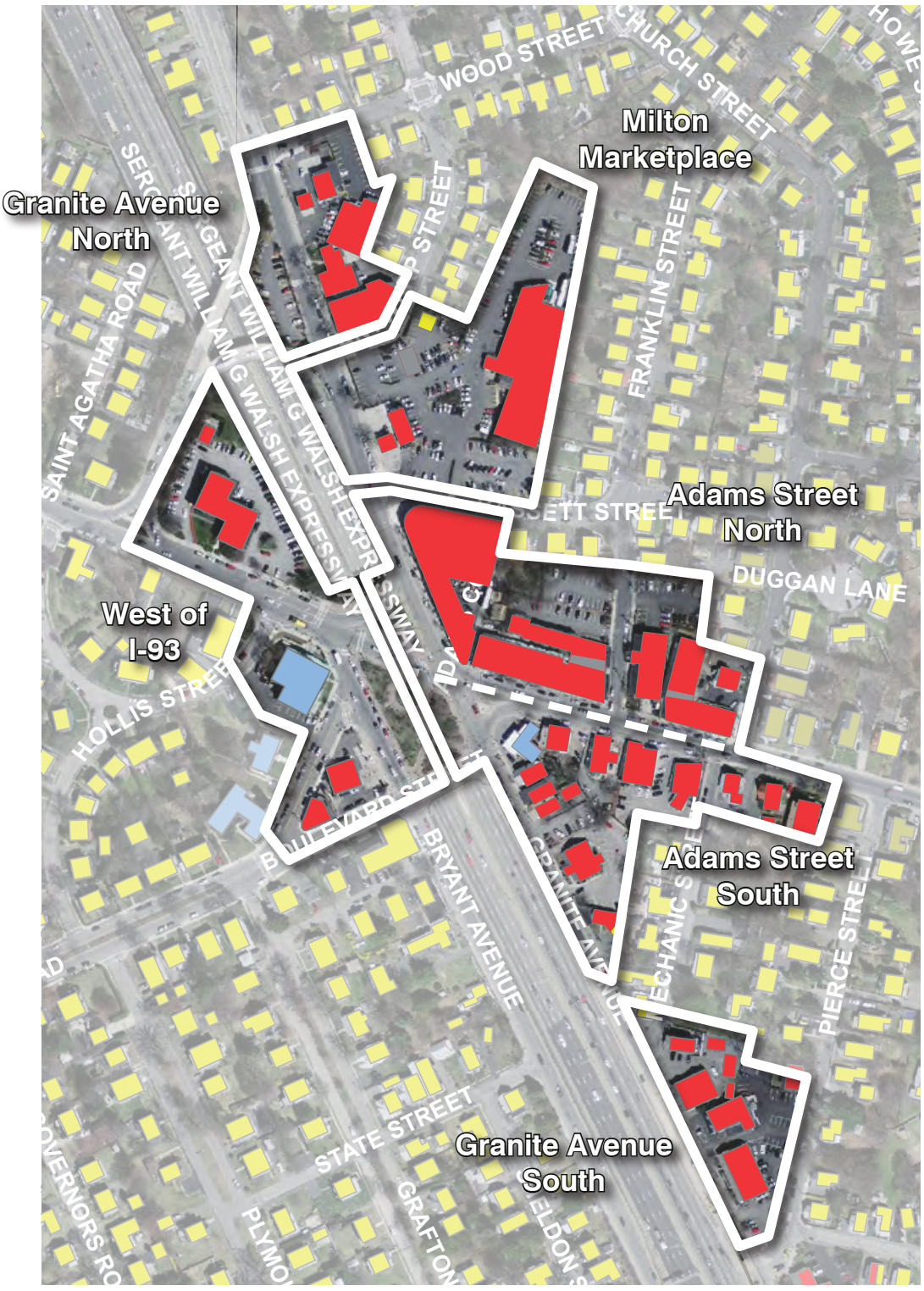
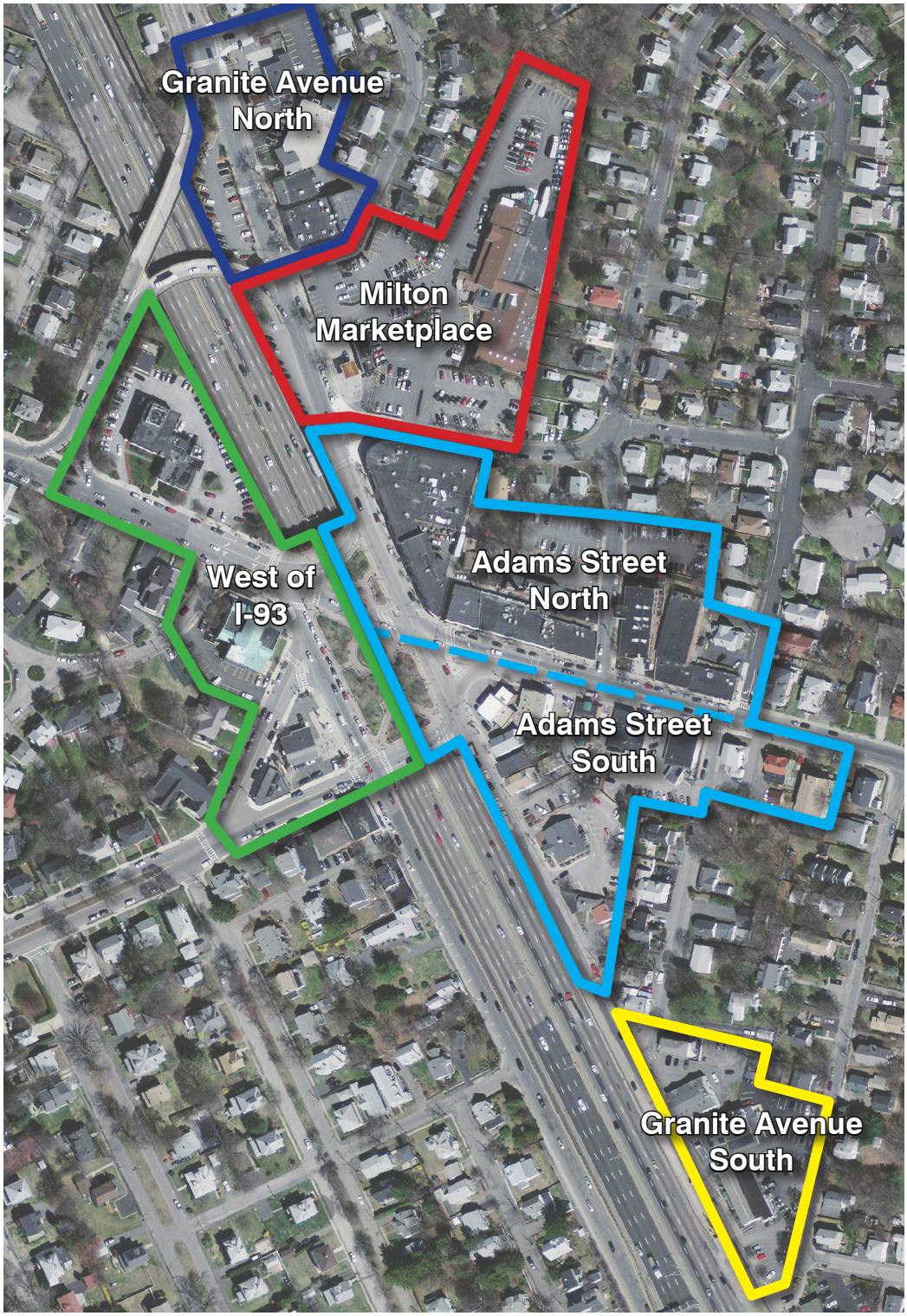


Figure 3. Commercial Sub-districts



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Retail

The existing retail in East Milton Square has two distinct mini-districts: Adams Street/Granite Avenue and the Milton Marketplace. The Milton Marketplace and its adjacent shops on Bassett Street function as a single and separate shopping center

The most noticeable and accessible retail mini-district for the shopper is along Adams Street, which appears as a traditional New England village retail streetscape consisting of coffee shops, pizza parlors, and other casual eateries, interspersed with service-oriented shops. This block has only two specialty retailers: Grono and Christie Jewelry and Belle Visage, a day spa with personal accessories and beauty products. Adams Street becomes Granite Avenue at the corner and the retail block continues; however, tenants on this block are offices, non-retail services, and a fitness center. The shopping experience is hampered in this mini-district since the parking immediately available is frequently in use, and there is not much specialty shopping or, in other words, not much merchandise to look at or to buy.

The second mini-retail district in East Milton Square is the Milton Marketplace, and this is the hub of retail activity. It is a concentrated cluster of destination and specialty retailers, anchored by a quality grocer and a CVS with adjacent parking. The specialty retail shops offer a fairly wide array of goods and are located discreetly on the second floor above the Milton Marketplace grocer, and CVS. At the Marketplace a shopper can find necessities as well as other interesting and unique items. The connection between the Milton Marketplace and the Adams Street/Granite Avenue merchants is neither pleasant nor obvious.

The lack of a pleasant, intuitive pedestrian connection between its retail areas presents an opportunity to enliven East Milton Square. If the Adams Street/Granite Avenue blocks can be linked physically and visually with the Milton Marketplace, the entire Square could become a bustling hub. Clearly marked walkways between the two places with landscaping, lighting, and signage would give shoppers and retailers a strong sense of place and create a unified identity for shopping at East Milton Square.

The combined shopping would extend the experience, providing broader retail and restaurant offerings than each single mini-district. More to do attracts more shoppers, and more shoppers attract more retailers. Ideally, specialty retailers, such as those found on the second floor of the Milton Marketplace would be attracted to and occupy the prime space along Adams Street/Granite Avenue. Offices, day spas, and fitness centers can and do locate on second floors.

From a retailing perspective, the most effective initiative to attract new tenants is to concentrate the effort on the east side of I-93. The west side of the highway has larger spaces in non- retail friendly configurations. These require a greater investment to convert to retail space and would be difficult to lease for retail given current economic conditions; however, at some point the west side of the Square might be leasable to larger format sit-down restaurants or possibly theatre/ restaurants or other entertainment or educational concepts that are suitable for the size, shape, and parking allocation for these buildings.

There are numerous ways to attract retailers. Marketing and leasing to specialty retailers is an art and science developed by the shopping center industry and implemented

individually by towns and cities of varying sizes and budgets. Anything and everything from creating special districts and zoning to provide tax incentives to having a space in an East Milton Fair on the first Sunday of every month can and does take place.

For the purposes of this preliminary assessment, and until a Retail Plan has been established, here is a list of basic marketing and leasing initiatives that can be taken by either a government agency, volunteer group, or consultant.

Marketing

- Create a simple, eye catching website to list all the existing stores and eateries at East Milton Square. This will be the basic format for news and promotions.
- Publicize the physical improvements of the Business Revitalization Plan in regional papers and on the East Milton Square website so merchants in the region can have the most updated information.
- Create a fact sheet for the website and to use as a poster for store windows summarizing the benefits of an East Milton Square location, including basic demographics, and contact names for further information.
- Create a basic map of East Milton Square that outlines the pathways between retail locations and sites of shared parking that serve them. The mapped pathways could be mirrored in the built environment with signage or sidewalk striping similar to Boston's Freedom Trail.
- Promote East Milton Square with at least one day/night per week of a special event with all merchants participating, such as "Midnight Madness" where all stores offer a discounted item at midnight or anything else that will bring attention to a unified East Milton Square. The more distinctive the event the more publicity it will receive and this attracts other retailers.

Leasing

- Create a one-stop information center where lists of available properties and their contact people are located, as well as any information required to lease and build out space in East Milton Square.
- Speak individually to property owners about the types of retailer desired to see whom they might know as a prospective tenant.
- Canvas regional downtowns, possibly beginning with the benchmark squares identified by the BCAC, for specialty retailers and restaurateurs who are suitable for East Milton Square properties.
- Work to connect the owners with the prospects.

Parking Requirements Based on Zoning

At 1 space per 250 sf of retail/office (4 spaces/1,000 sf), the Town of Milton's parking requirements are overly accommodating compared to current standards. Parking is unevenly distributed throughout the Square and in some places is inadequate when compared to the zoning regulations. According to the zoning code, the Milton Marketplace and West of I-93 sub-districts have significantly more parking than required, while the Granite Avenue North and Granite Avenue South sub-districts have somewhat less than the code requires. The Adams Street Retail Core, which is the heart of the East Milton commercial center, has significantly less parking than is required.

However, this analysis does not account for the practical adjacency of the Milton Marketplace parking lots, flush with parking, to both the Adams Street Retail Core and the Granite Avenue North sub-district and their apparent lack of parking. In practice, the

excess parking at Milton Marketplace serves users of the other areas, supplementing their parking.

Table 2. Parking Requirement by Sub-district

Location	Area (sf)	Existing Parking Supply	Required Parking Supply*	Difference
Retail Core				
Adams Street North (including Bassett Street)	84,709			
Adams Street South (to Mechanic Street)	41,422			
subtotal	**126,131**	**187**	**505**	**-318**
Other				
Granite Avenue North	23,304	53	93	-40
Milton Marketplace	45,524	224	182	42
Granite Avenue South	20,500	58	82	-24
West of I-93	27,872	250	111	139
Subtotal	**117,200**	**772**	**973**	**-201**

**Source: Milton Zoning Bylaw*

Existing Parking Supply and Occupancy

The Massachusetts Water Resources Authority (MWRA) Southern Spine Distribution Mains project restricted traffic and parking on Adams Street in East Milton Square east of the Wood Street Extension from July through November 2010. For this reason, parking data was gathered in two major efforts. The first took place in July 2010 prior to MWRA construction and the second after the work was complete. The parking data and detailed analysis are included in **Appendix A.**

- The first round of data collection was an inventory of both curbside and off-street parking. Off-street sites inventoried were those which offer shared parking. Lots which can only be used by tenants of a given location, such as the Jesson Building lot, were not inventoried. The inventory determined how many parking spaces are available in and around East Milton Square and how those spaces are regulated. A significant portion of the area inventoried was determined to be residential and therefore off-limits for potential use by patrons of businesses in the Square. The existing parking supply is shown in **Figure 4.** Zones of on-street parking are shown in **Figure 5.**
- The second round of data collection consisted of a parking turnover and occupancy study. This was performed in December 2010 after the MWRA project had shut down for the winter. This was done to ensure that parking conditions would be observed with normal traffic patterns in place. Un-striped on-street and lot parking[5] spaces were analyzed for occupancy. Occupancy answers the question "how full is a given section of parking?" Striped, on-street parking was analyzed for turnover. Turnover answers two questions "how full is a given section of parking?" and "how long do vehicles stay in this section of parking?"

[5] Municipal lots or lots offering shared parking only – private lots were not analyzed.

Figure 4. Existing Parking Supply by Type

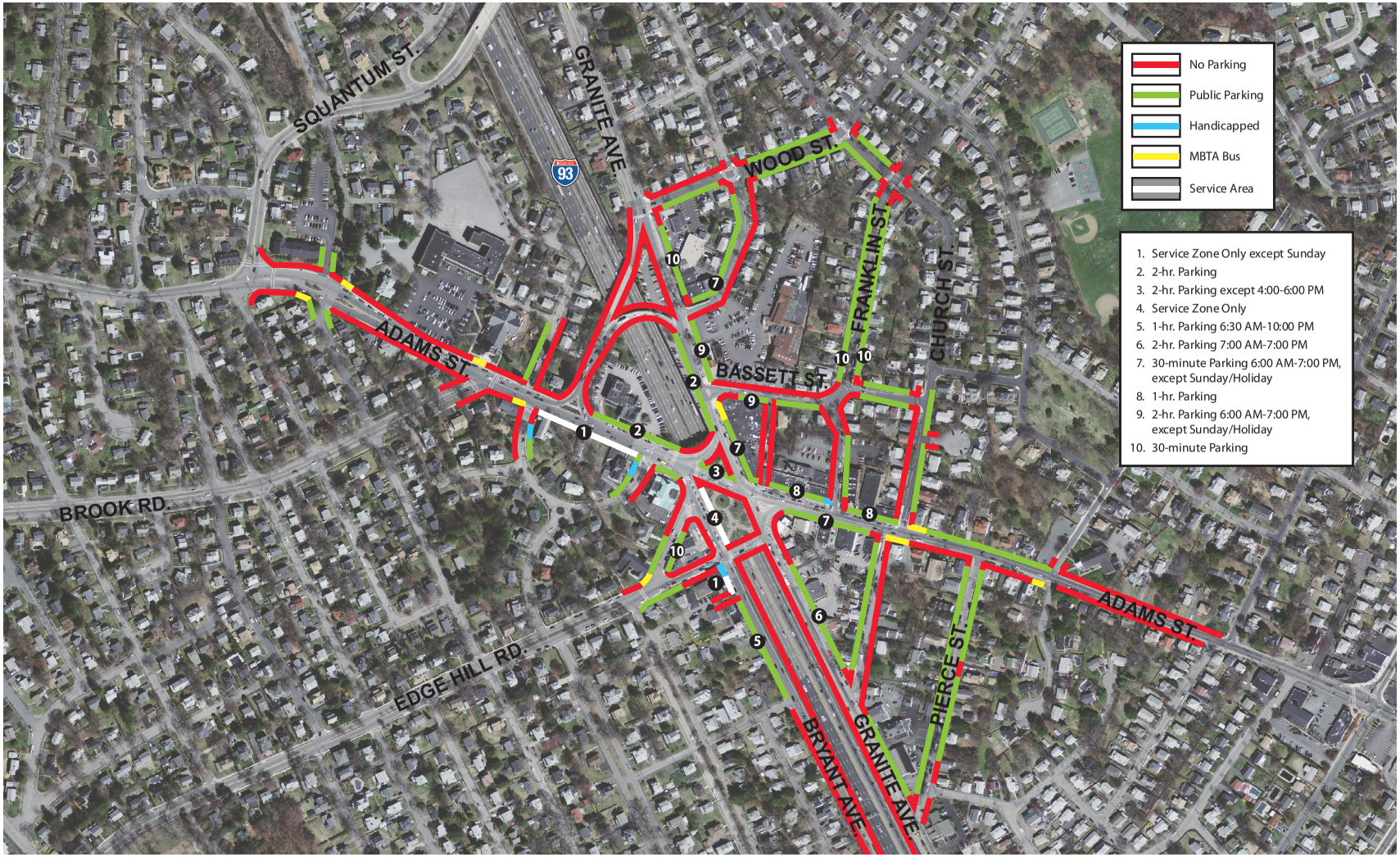

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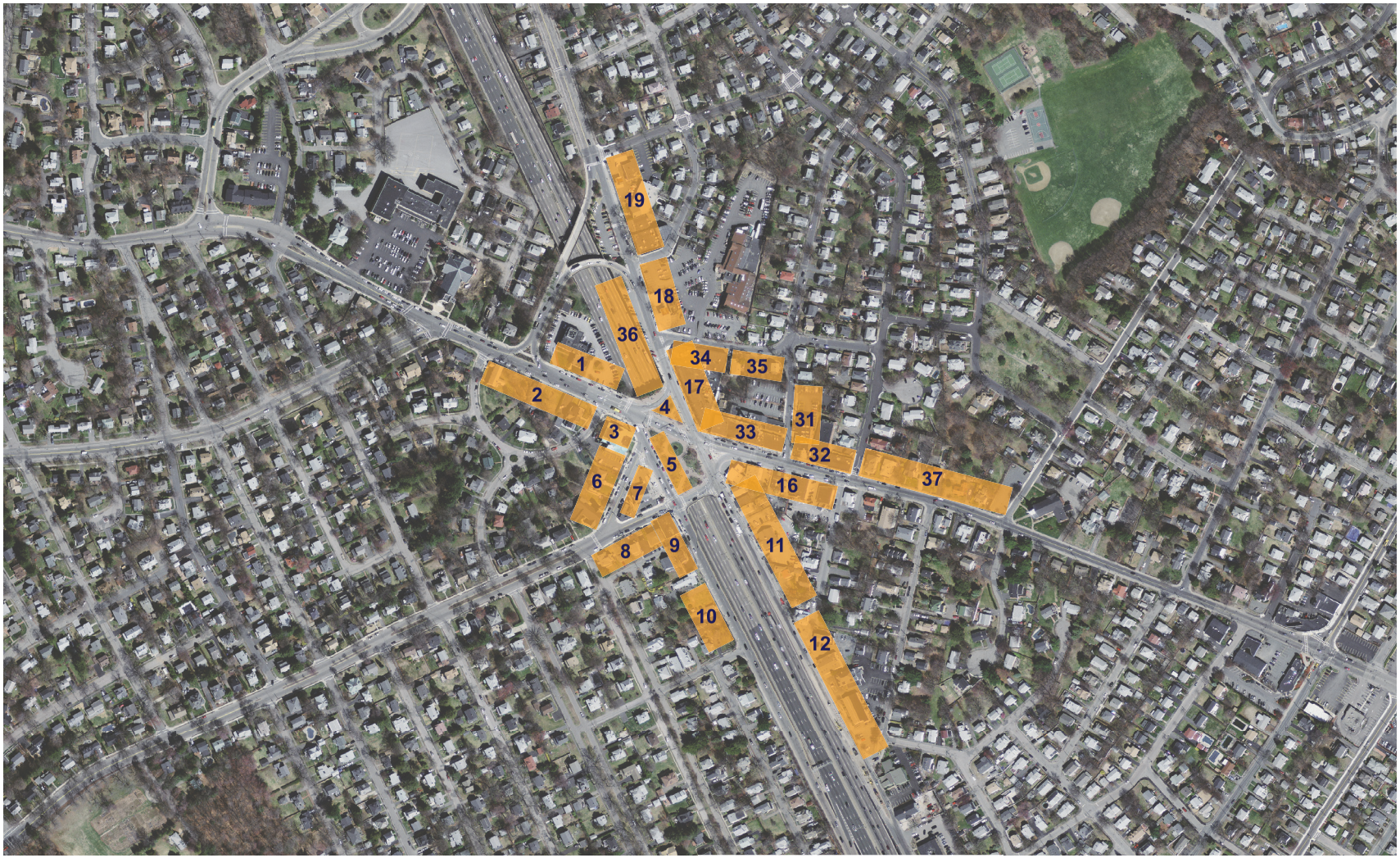
Figure 5. Existing On-street Parking Zones



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Note: Block numbers correspond to data in Tables 4 and 5.

The turnover and occupancy studies showed that parking in East Milton Square can be divided into three zones for both turnover and study purposes. These are:

- **West of I-93:** characterized by high usage along Bryant Avenue by the park and Edgehill Road, with lower usage everywhere else; and low turnover throughout the zone.
- **East of I-93 "Low Desire":** characterized by somewhat lower usage throughout, especially at the far northern and southern edges along Granite Avenue and the eastern edge on Adams Street; and low turnover throughout.
- **East of I-93 "High Desire":** characterized by heavier usage throughout, particularly along Adams Street from Bryant Avenue to Church Street, Basset Street, Granite Avenue between Adams Street and Bryant Avenue and the fruit center lot/municipal lot; with low turnover throughout.

Turnover varies throughout the three zones. East of I-93, turnover tends to be higher with an average duration of 1.8 to 2.4 hours on weekdays and 1.7 to 2.0 hours on Saturday. West of the Expressway, the turnover is lower – with an average duration of 4.8 hours on weekdays and 3.4 hours on Saturday, meaning that cars stay in one parking space for a longer time. This is generally considered not to be beneficial to local business. **Table 3** shows average parking durations for the three broad zones.

Table 3. Parking Duration by Zone

Parking Zone	Weekday Average Parking Duration	Saturday Average Parking Duration
West of I-93	4.8 hours	3.4 hours
East of I-93 – Low Desire	1.8 hours	1.7 hours
East of I-93 – High Desire	2.4 hours	2.0 hours

The results of the parking occupancy and turnover studies suggest that better management of the existing supply is appropriate prior to expansion. Throughout the day, a good amount of parking remains available throughout the Square. Perception of inadequate supply may be driven by a host of factors including:

- Low turnover;
- Illegal parking;
- A pedestrian environment and lack of clear wayfinding that discourage longer trips between parked cars and destinations; and
- A lack of a clear circulation pattern that makes it difficult for motorists to see all available parking and/or return to spaces further out that they may have passed up on their initial trip into the Square.

These findings have had a significant influence on the options advanced by the project team and BCAC, particularly the short and mid-term options which intend to improve turnover and occupancy of available parking and/or to create a moderate number of new spaces without resorting to major construction or acquisition of property.

Table 4 shows an overview of parking inventory, regulations, occupancy, and turnover by block face in the three overall parking zones on the weekday and Saturday surveyed. The table shows the block faces with a descriptor to help readers place them on a map of the Square. The table only captures parking zones looked at during the occupancy and turnover study in December 2010. Residential areas determined to be "off-limits" by the project team; BCAC, and Town were not analyzed.

Table 4. Existing Parking Supply and Turnover by Block Face

Location	Block Face	Regulation	Number of Spaces	Average Weekday Occupancy	Average Weekday Duration (hrs)	Average Saturday Occupancy	Average Saturday Duration (hrs)
Turnover Study Locations							
West of I-93							
Adams Street across from Post Office	1	2-hour	9	35%	3.09	34%	2.03
Across from Post Office on Bryant Avenue	5	Service Zone	11	67%	7.01	48%	5.73
Across from Shell on Edge Hill Road	6	None	10	63%	4.15	55%	3.83
Edge Hill Road, Shell Side	7	½-hour	4	75%	5.10	56%	2.71
Bryant Avenue South of Boulevard Street	9	Service Zone	10	70%	7.50	17%	1.98
Bryant Avenue South of Boulevard Street	10	1-hour	7	4%	0.43	29%	3.71
Subtotal			*51*	*53%*	*4.8*	*40%*	*3.4*
East of I-93 – Low Desire							
East Side of Granite, Mechanic to Adam	11	2-hour	10	33%	2.17	31%	2.28
East Side of Granite, Pierce to Mechanic	12	2-hour	12	33%	1.93	25%	1.49
East Side of Granite, Bassett to Antwerp	18	2-hour	6	40%	1.51	51%	1.70
East Side of Granite, Antwerp to Wood	19	½-hour	7	25%	1.57	20%	1.21
Subtotal			*35*	*33%*	*1.8*	*32%*	*1.7*
East of I-93 – High Desire							
Adams Street over I-93	4	2-hour	4	54%	1.67	56%	1.88
South Side of Adams, Granite to Mechanic	16	½-hour	10	76%	1.27	86%	1.39
East Side of Granite, Adams to Bassett	17	½-hour	12	73%	2.05	68%	1.26
East Side of Franklin, Adams to Bassett	31	None	7	88%	7.23	89%	3.98
North Side of Adams, Church to Franklin	32	1-hour	9	77%	2.58	77%	2.32
North Side of Adams, Franklin to Adams Court	33	1-hour	11	66%	2.01	72%	2.00
South Side of Bassett, Granite to Adams Ct	34	2-hour	5	77%	3.01	63%	1.92
South Side of Bassett, Adams Ct to Franklin	35	2-hour	5	60%	2.51	57%	1.62
West side of Granite - Angle-in	36	2-hour	22	52%	1.95	55%	2.11
Subtotal			*85*	*67%*	*2.4*	*69%*	*2.0*

Source: HSH parking turnover study December 9, 2010, and December 11, 2010

The data in **Figure 4** reveals a disconnect between the on-street parking regulations and the average parking duration, for example, an average duration of 5.1 hours in a ½ hour zone. Thus, while the overall turnover east of I-93 is relatively good, vehicles may be parked too long in areas where an even higher turnover is desired. The average occupancy of spaces was below capacity in most block faces, even during the holiday shopping season, but capacity could have been exceeded at several locations for periods at various points in the day. Parking occupancy was also tracked at additional locations presented in the **Table 5** below.

Table 5. Existing Occupancy Parking Supply by Block Face or Lot Location

Location	Block Face	Regulation	Number of Spaces	Avg. weekday occupancy	Avg. Saturday occupancy
West of I-93					
South side of Adams, east of Post Office	2	Service Zone	13	11%	11%
South side of Adams at Post Office	3	None	2	54%	38%
South side of Boulevard, west of Bryant	8	None	6	62%	58%
Saint Agatha Lot	N/A	None	174	37%	28%
Subtotal			*195*	*41%*	*34%*
East of I-93 Low-Desire					
Dolan Funeral Home Lot	N/A	None	26	30%	15%
Citizens Bank Lot	N/A	None	23	29%	23%
North side Adams Street, east of Church	37	None	15	15%	23%
Subtotal			*64*	*18%*	*20%*
East of I-93 High-Desire					
Wood Street Ext. Lot	N/A	Service Zone	16	58%	48%
Wood Street Ext. Lot	N/A	2-hour	12	25%	26%
Sovereign Bank Lot	N/A	None	26	53%	50%
55 Adams Street	N/A	None	37	51%	60%
4 Franklin Street Lot	N/A	None	47	38%	34%
Fruit Center Lot	N/A	None	184	54%	61%
Fruit Center Town Lot	N/A	None	34	84%	73%
Subtotal			*356*	*51%*	*50%*

Source: Parking turnover and occupancy counts performed by HSH on December 9th and 11th of 2010. Named lots are not reported with a block face number.

The study showed relatively low occupancy at all locations both weekdays and weekends, with the exception of the Milton Marketplace Town Lot, where the average occupancy was 84% on weekdays and 73% on weekends, indicating that there were more periods when the lot was occupied to capacity.

The results of the parking turnover study indicate that the Square's current parking supply should be adequate to support the needs of current businesses and could do so if the

available parking were used more efficiently. Study results showed that the area defined by the block of Adams Street immediately east of Granite Avenue, Granite Avenue from Adams Street to Bassett Street and Bassett Street from Granite Avenue to Franklin Street experiences a high demand for parking all day. In this area, cars frequently stay in parking spaces beyond the posted time limit. The desire to park as close to one's destination as possible and an understanding of inconsistent enforcement leads motorists to park in driveways, crosswalks, and at fire hydrants. This behavior is driven by a number of factors including:

- poor vehicular wayfinding in the Square – if a driver passes an outlying space, navigating back to it can be difficult;
- poor pedestrian wayfinding in the Square – once parked, it can be difficult to navigate back to the center of the area on Adams Street east of I-93; and
- an unfriendly pedestrian environment which discourages walking between a parked car and one's destination.

Outside of the high desire area outlined above, the demand for parking drops relatively quickly although low occupancy remains the norm. Some areas of parking, such as the service zone west of the post office on Adams Street and the 1-hour parking south of Boulevard Street on Bryant Avenue were generally more empty than full.

Baseline Analysis

Traffic Volumes

As part of establishing the baseline conditions, the project team performed 11-hour turning movement counts at key intersections in and around the Square from 7:00 a.m. – 6:00 p.m. In addition to counting vehicles, counts of bicycle movements and pedestrian crossings were also taken. Counts were performed on Tuesday, June 15, 2010, and Saturday, June 19, 2010. The intersection of Adams Street/Pleasant Street/Centre Street was counted a second time on Tuesday, December 14, 2010, to ensure that data for this intersection would not be impacted by the MWRA project. All counts were taken when school was in session.

Intersections counted included the following:

- Adams Street/Centre Street/Pleasant Street;
- Adams Street/Squantum Street;
- Adams Street/Brook Road;
- Adams Street/Granite Avenue (west);
- Adams Street/Bryant Avenue;
- Adams Street/Granite Avenue (east);
- Adams Street/Stedman Street/Beale Street;
- Brook Road/Pleasant Street;
- Edge Hill Road/Bryant Avenue;
- Edge Hill Road/Granite Avenue;
- Bassett Street/Granite Avenue; and
- Squantum Street/Granite Avenue.

Volumes for the a.m. peak are presented in **Figure 6,** volumes for the p.m. peak are presented in **Figure 7,** and Saturday midday volumes are presented in **Figure 8.** The traffic count data are included in **Appendix B.**

Figure 6. Existing Traffic Volumes, Weekday a.m. Peak Hour

Note: Weekday a.m. peak hour in the study area occurs from 8:00 a.m. – 9:00 a.m.

Not to scale.

Figure 7. Existing Traffic Volumes, Weekday p.m. Peak Hour

Not to scale.

Note: Weekday p.m. peak hour in the study area occurs from 5:00 p.m. – 6:00 p.m.

Figure 8. Existing Traffic Volumes, Saturday Midday Peak Hour

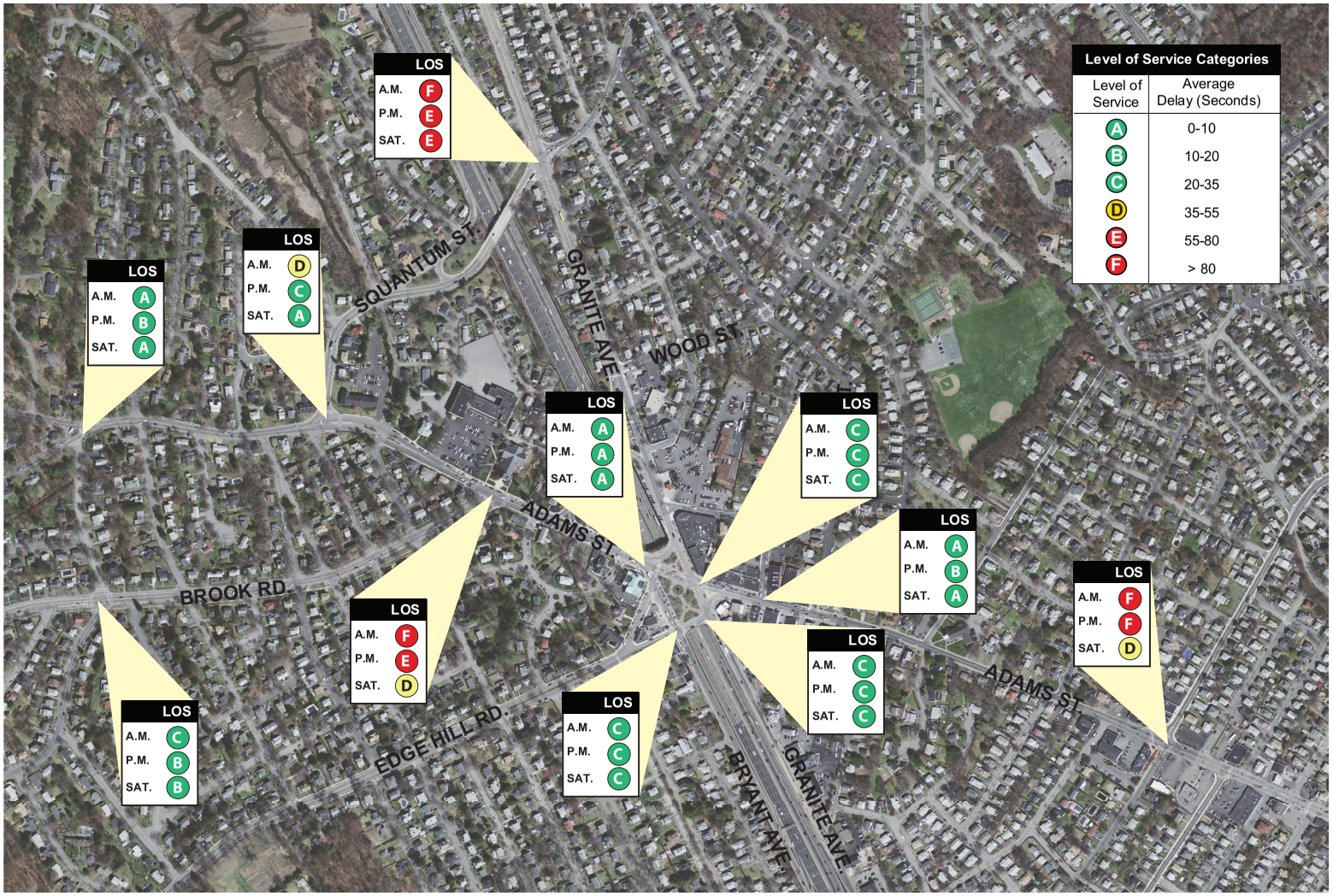
Note: Saturday midday peak hour in the study area occurs from 11:00 a.m. – 12:00 p.m.

Capacity Analysis

The criterion for evaluating traffic operations is level of service (LOS), which is determined by assessing average delay incurred by vehicles at intersections and along intersection approaches. Existing vehicular traffic conditions were analyzed using Trafficware's Synchro software. This software is based on the traffic operational analysis methodology of the Transportation Research Board's *2000 Highway Capacity Manual (HCM).* A field inventory of lane geometry, existing questions, traffic signal timings, and 2010 traffic volumes were used to create the Synchro network. In terms of the measures of effectiveness, LOS A defines the most favorable condition, with minimum traffic delay. LOS F represents the worst condition, with significant traffic delay

The intersections in and around the Square generally operate as would be expected in a built-up commercial and residential area. During the a.m. peak hour, most of the intersections in the study area operate at LOS D or better, considered acceptable for a built-up area, with some operating at LOS A or B. The intersections of Adams Street/Brook Road, Adams Street/Beale Street/Stedman Street, and Boulevard Street/Granite Avenue operate at LOS F. Boulevard Street/Granite Avenue operates at LOS F, in part, due to the intentional delay for northbound traffic programmed into the signal. During the p.m. peak hour, conditions are similar with most intersections performing at LOS E or better. In this time period only Boulevard Street/Granite Avenue and Adams Street/Beale Street/Stedman Street operate at LOS F. During the Saturday midday peak hour, all intersections operate at LOS E or better with the exception of Boulevard Street/Granite Avenue, which operates at LOS F. Capacity analysis for the a.m., p.m., and Saturday midday peak hours are presented in **Figure 9.**

Figure 9. Capacity Analysis Summary: 2010 Existing Conditions



Not to scale.

Pedestrian Environment

During the public involvement process, the pedestrian environment in the Square has been repeatedly characterized as "unfriendly". Members of the BCAC and community regularly expressed concerns about the speed and volume of traffic, particularly on Adams Street and Bryant Avenue. Commentary obtained through meetings also suggested that the Manning Community Park would receive greater use if it were not surrounded by multiple lanes of fast-moving traffic. Several residents expressed that they would prefer to walk to the Square, but choose to drive due to the unfriendly pedestrian environment. The project team has concluded that some of the parking pressures experienced in the high desire zone east of I-93 are due to the unwillingness of individuals to park and walk a short distance (up to ¼ mile, or five minutes) to their destination. Pedestrian volumes for the central intersections around the Manning Community Park can be seen in **Figure 10, Figure 11,** and **Figure 12**. Pedestrian count data are included in **Appendix B.**

Two locations in particular stood out as being particularly challenging to pedestrians:

- The pedestrian crossing on Adams Street at the post office. At over 60 feet in length and crossing three lanes of traffic, this crosswalk is the longest of any in the squares benchmarked by the project team. Drivers frequently do not see the pedestrian signals and instead focus on the light at Adams Street/Granite Avenue. Red light running is a frequent problem.

- The pedestrian crossing on Granite Avenue at the Bruegger's Bagel restaurant. While not as long as the Adams Street crosswalk, traffic here generally speeds up significantly after having waited through the long delay at the Granite Avenue/Boulevard Street signal. The pedestrian call buttons at this location also frequently malfunction.

Pedestrian wayfinding within the Square is also considered to be poor and does little for walkers not familiar with the area. This is believed to contribute to parking pressures in the Square's center east of I-93. Improvements to signage and the development of pedestrian pathways, with attractive landscaping and lighting, would help to address this issue.

Bicycle assessment

The public involvement process did not reveal feelings about cycling in the Square as strong as those about pedestrian access; however, members of the community and BCAC indicated that they would cycle to the Square if the environment were made more comfortable. Representatives of the Milton cycling community attended BCAC meetings and public sessions. Generally speaking, the desire among cyclists seems to be to provide connectivity, possibly via bicycle lanes, between the Square, the Neponset River Greenway, and other elements of local bicycle infrastructure. Bicycle volumes for the central intersections around the Manning Community Park can be seen in **Figure 13, Figure 14,** and **Figure 15**. Bicycle count data are included in **Appendix B.**

The Square also presents an indifferent cycling environment. While the area does have some curbside bicycle racks, many of these have been installed incorrectly such that a bicycle parked at one could hang off the curb and into the travel lane. None of the roadways in the Square is striped with bicycle lanes or "sharrows" (which define a shared bicycle-vehicle lane). Two major roadways in the area, Granite Avenue and Adams

Street, are classified by the City of Boston's bicycle map as "advanced" and "intermediate respectively." Granite Avenue provides access from the Square to the Neponset River Greenway, but is not signed or striped to encourage use by cyclists.

Figure 10. Existing Pedestrian Volumes, a.m. Peak Hour

Figure 11. Existing Pedestrian Volumes, p.m. Peak Hour

Figure 12. Existing Pedestrian Volumes, Saturday Midday Peak Hour

Figure 13. Existing Bicycle Volumes, a.m. Peak Hour

Figure 14. Existing Bicycle Volumes, p.m. Peak Hour

Figure 15. Existing Bicycle Volumes, Saturday Midday Peak Hour

Crash Analysis

Crash analysis was conducted for the study area in accordance with Massachusetts Department of Transportation (MassDOT) methodology. Crash data are included in **Appendix C.** Locations with above average crash rates over the past three years include:

Adams Street/Bryant Avenue

The collision diagram **(Figure 16)** shows that all of the reported crashes are either sideswipe crashes or angle crashes. This is likely due to the geometry and unclear lane usage at the intersection. Vehicles turning right from Adams Street eastbound onto Bryant Street southbound are able to use the right-most lane (right-turn only) and the middle lane (shared through/right-turn). However, there are two receiving lanes on Adams Street to the east of the intersection, one of which is lined up with the right-turn only lane. Crashes could be caused from vehicles in the right-turn only lane making the through movement while vehicles in the middle lane are trying to make the right-turn movement.

Adams Street/Granite Avenue

The Adams Street/Granite Avenue intersection has an elevated crash rate (1.34 crashes per million vehicles) as compared the district average of 0.78 crashes per million vehicles. The crash diagram is shown in **Figure 17.** The majority of crashes are rear-end crashes, which could be caused by lack of visibility of the signal indications. They could also be caused by substandard clearance intervals or driver frustration caused by the long cycle at the Boulevard Street/Granite Avenue signal.

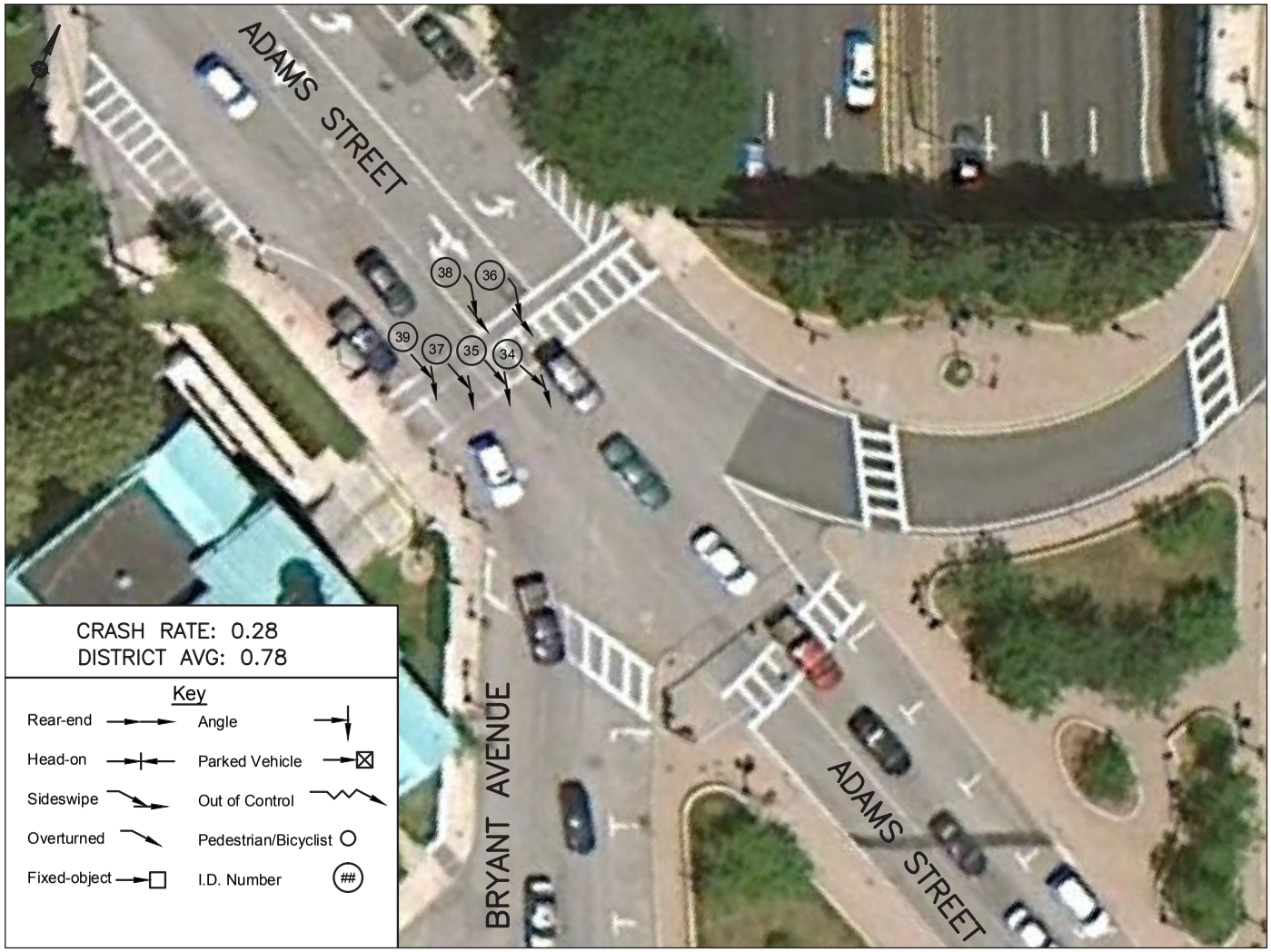
Boulevard Street/Bryant Avenue

The majority of crashes at this location **(Figure 18)** are angle crashes, which could be caused by lack of clear visibility of the signal indications or substandard clearance intervals. This could also be caused by vehicles turning right on red from Boulevard to Bryant accepting gaps in the Bryant Avenue through traffic that are too short to make the movement safely.

Aesthetic Deficiencies

The Square generally has the look and feel of a small town business district. The areas surrounding it are clearly residential; however, the line between the two different areas is not always clear, as it varies based on where one is in the Square. The gateways in and out of the Square are likewise unclear. While the Manning Community Park is an attractive location which provides some welcome green space it is clear that the effort to tie the two halves of the Square together over I-93 is partially complete and that the depressed highway still acts as a barrier to pedestrians. This contributes in part to parking pressures east of I-93.

Figure 16. Crash Diagram – Adams Street/Bryant Avenue



Not to scale.

Figure 17. Crash Diagram – Adams Street/Granite Avenue

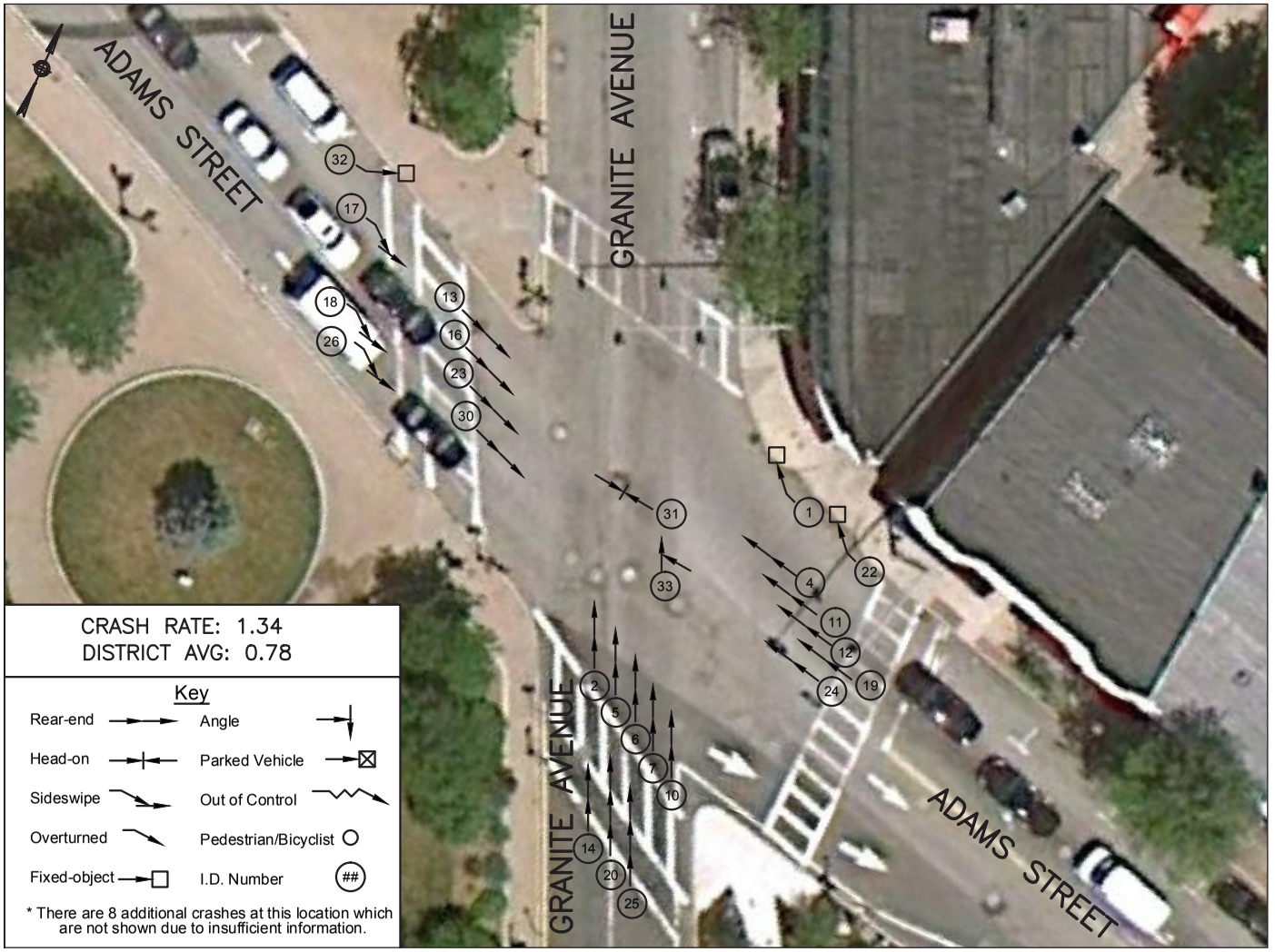
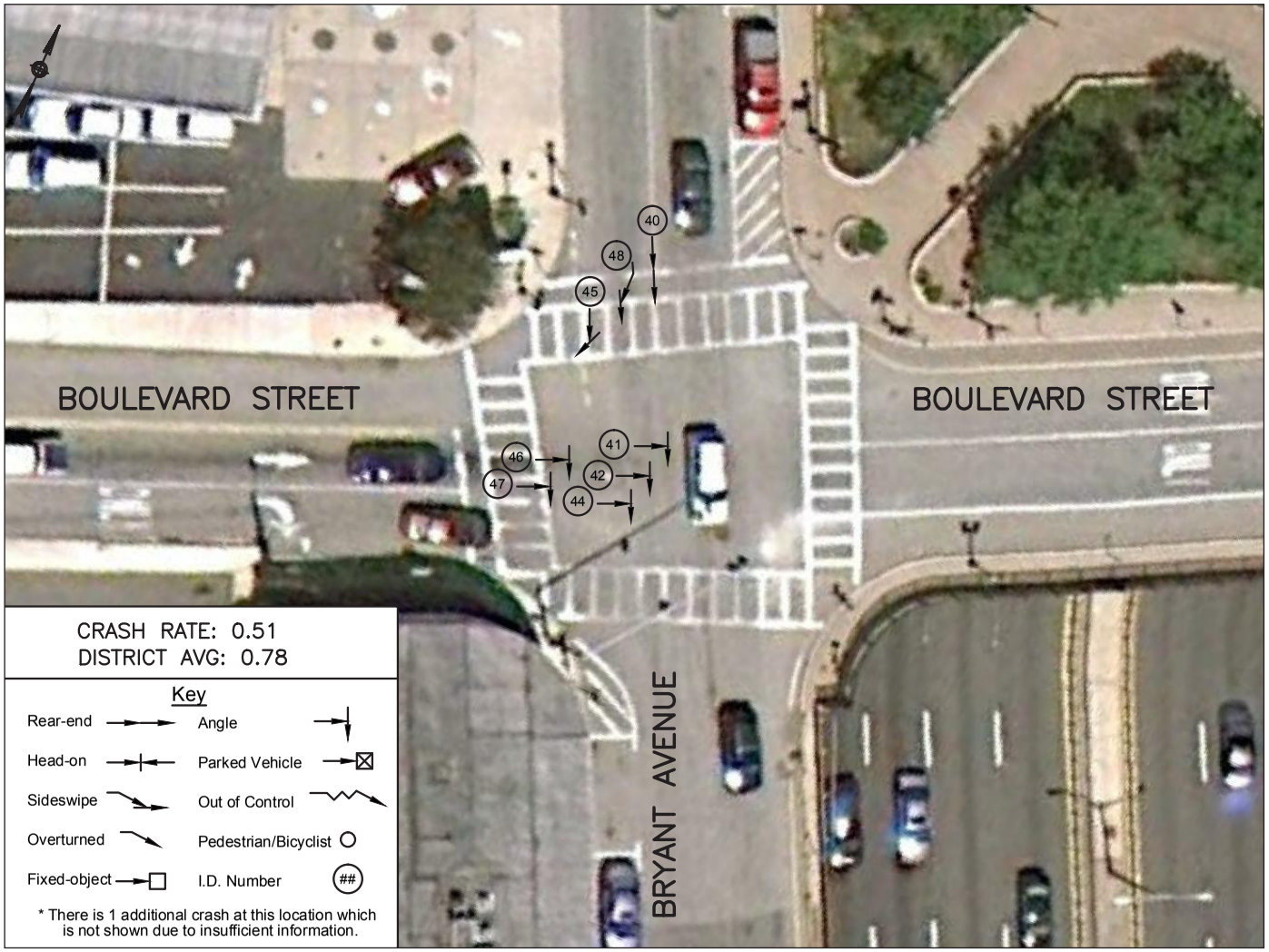


Figure 18. Crash Diagram – Boulevard Street/Bryant Avenue



Not to scale.

Future Analysis

Analysis Framework

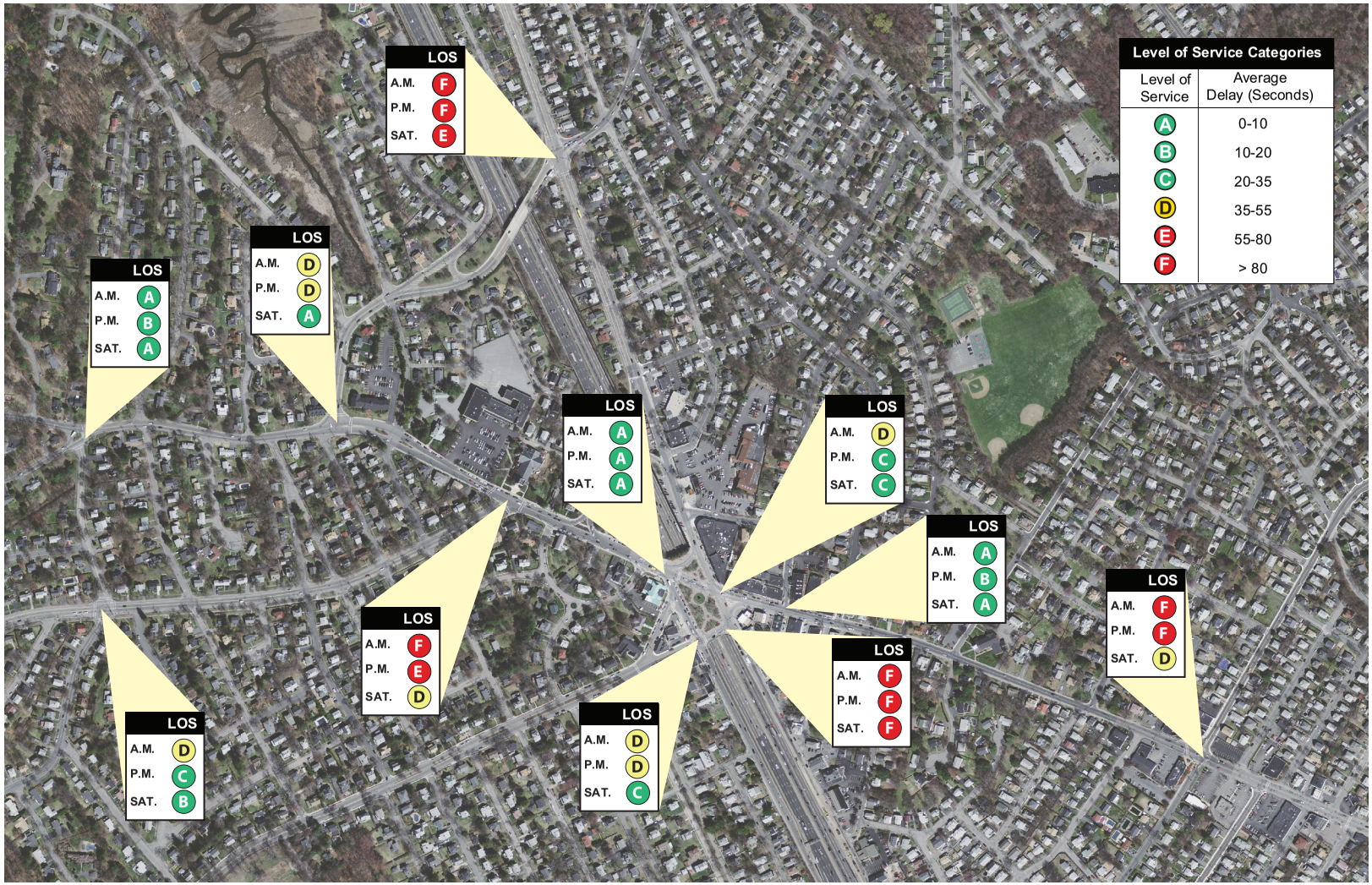
The study team requested travel demand forecasts from the Central Transportation Planning Staff (CTPS), which is the modeling arm of the Boston Metropolitan Planning Organization (MPO). CTPS provided population and daily traffic volumes for 2010 and 2030. From those data, the team was able to determine an annual traffic growth factor. An annual growth rate of 0.02% per year compounded annually was applied to 2010 volumes, or a total increase of 4.4% between 2010 and 2030. In Milton, the growth rate is relatively low because the community and its neighbors are relatively developed and the expected change in population is low.

Intersection Operations Analysis

Capacity analysis results for the a.m., p.m., and Saturday midday peak hours are presented in **Figure 19**. As noted above, traffic operations in 2030 would remain largely the same assuming no changes to the roadways in East Milton Square:

- The intersections of Adams Street/Bryant Avenue, Boulevard Street/Bryant Avenue and Adams Street/Granite Avenue all operate at LOS D or better during the a.m., p.m., and Saturday midday peak hours.
- The intersection of Boulevard Street/Granite Avenue operates at LOS F during all peak periods.
- Some outlying intersections, such as Squantum Street/Granite Avenue also operate at LOS F, though HSH believes that these intersections can be improved with changes to signal timings and upgrades to signal equipment.

Figure 19. Capacity Analysis Summary: 2030 No-change Conditions



Not to scale.

Alternatives Development

This section describes various alternatives that have been developed and evaluated through the study process. The study team worked on a range from short-term, easy to implement options to long-term, more costly alternatives.

Short-term Curbside Management and Wayfinding Plan

This option is designed to be quick to implement and relatively inexpensive, consisting of pavement markings, signage, and to leave the door open to construct one of the longer term schemes. This option could be implemented in parts, with signing and pavement marking changes happening within months of recommendation. The curbside management plan is shown in **Figure 20.**

Key elements of this option include:

- Standardizing parking time limits throughout the Square, such as from 8:00 a.m. – 6:00 p.m.;
- Shifting service zone parking to outlying areas;
- Changing the title of "service zone parking" to "permit parking" on the signage;
- Enforcing of existing parking regulations consistently to drive parking turnover;
- Installing wayfinding signage improvements to aid motorists' recirculation; and
- Installing wayfinding/destination signage for pedestrians.
- Develop a plan for aesthetically pleasing pedestrian pathways between sub-areas of the retail district, with lighting and landscaping, to achieve a unified identity and sense of place to the Square.

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Curbside Management and Wayfinding Plan	+	O	+	O	+	O	O	O	+	+

Legend: In the following tables a + symbol indicates that the option is positive on a given evaluation criteria, a – indicates it to be negative. O indicates that the option is neutral.

This option is neutral in terms of most of the evaluation criteria since it makes relatively few changes to current conditions. Its major positive aspects are in terms of addressing parking concerns by driving increased turnover through consistent regulations and enforcement, by shifting service zone parking to areas further away from the high-desire areas of the Square.

A more predictably available supply of parking may also be a benefit to local merchants. This option is strongly positive in terms of low cost and ease of implementation.

Figure 20. Short-term Proposed Curbside Management Plan

Short-term Parking Meters

One element of the short-term plan which has been heavily discussed by the BCAC and community is the idea of installing parking meters is the Square. The project team is aware that in the past, the Milton Chamber of Commerce has expressed concern about implementing parking meters as have members of the BCAC representing area businesses. However, the results of the parking study show that a lack of turnover is one of the key problems driving the perception that the Square has inadequate parking. As noted above, irregular enforcement of parking regulations also contributes to this issue. Several of the squares seen by the local business community and BCAC as model commercial districts make use of parking meters to drive parking turnover and ensure that businesses receive a steady supply of new customers throughout the day. Meters can also represent a significant time and cost saving when enforcing time restrictions. In speaking with the Town of Concord which implemented parking meters in the 1990's, the project team discovered that meters only require one monitoring visit to determine if they have expired as opposed to two visits: one to mark the tires or license plate and then again in several hours to see if the vehicle has moved.

To provide the BCAC and Board of Selectmen with a sense of what it would cost to install and operate parking meters in the Square, the project team has developed a rough set of benchmark information based on data provided by three major parking meter manufacturing firms: Duncan, MacKay Meters, and VenTek. The numbers presented here assume that parking meters would be installed on all of the block faces covered by the parking turnover study and in the municipal lots just north of the Wood Street Extension and in the Fruit Center lot. Given the broad range of parking meter technologies now available, the project team has requested that each manufacturer provide information for their most basic, coin-operated parking meter and their most highly advanced multi-space parking system in which a single box, capable of metering parking for ten spaces is able to accept coins, bills and credit cards.

There are many elements that would impact the cost parking meters were they installed in the Square and not present in the cost presented here is the salary of Town employees needed to service and patrol the meters. Revenue is also something to consider, the amount charged for metered parking varies widely in the Greater Boston. Within Boston itself, a quarter buys 12 minutes, in Brookline and Newton 15 minutes, and in Chelsea an hour. These are elements the Town would need to work through in further investigations if it chooses to further pursue the idea of meters. Nonetheless, **Table 6** provides an early sense of what it would cost to install and operate meters in the Square.

Table 6. Meter Installation and Operating Cost by Manufacturer

Manufacturer	Basic Installation Cost	Basic Installation Operating Expense (monthly)	Advanced Installation Cost	Advanced Installation Operating Expense (monthly)
Duncan	$119,520	$8,400	$241,500	$1,768
MacKay Meters	$142,000	$9,600	$260,000	$5,100
VenTek	$210,000	$3,332	$570,000	$3,332

Source: HSH parking meter research, Spring 2011

The project team is sensitive to the concerns of the business community regarding parking meters, but many successful small business districts in the Greater Boston Area make use of these devices to drive parking turnover. Increasingly, as a cost saving measure, smart meters, some of which are solar powered, and can process credit cards, are in use to cover multiple parking spaces with a single device. The project team believes that while they are not the only solution for the Square's parking pressures, they do represent one layer that can be added to all of the suggested options, and are strongly worth consideration by the Town. If meters are considered further, the project team recommends that the Town consider the installation of meters in Milton's other business districts to allow all three areas to compete on an equal footing. In conjunction with the installation of meters, the Town should also create a resident permit parking program around the business districts to prevent customers or employees of local businesses from parking in the surrounding neighborhoods.

Short-term Retail Development Planning

While a detailed retail plan for the Square has yet to be developed, being outside the purview of this study, there are an array of short-term elements that can be undertaken to ensure the continued health of the area's retail and to enhance its vibrancy. One easy step would be the creation of a website listing the Square's existing businesses. This website could also offer a downloadable map of the area showing which areas of parking are most convenient to various businesses and showing the way between shared parking lots and the destinations that have access to them. This report document and the efforts stemming from it should be publicized in local media to ensure that merchants thinking about opening a new location will think of the Square as a vital business district. Information regarding the basic demographics of Milton and the benefits of locating a business there should also be made available in print and digitally. Unique promotional events could also be used to attract more patronage to local retailers.

Leasing should be simplified as much as possible by providing a one-stop information center that provides listings of available properties and information regarding leasing and building regulations for the Square. Specialty retailers and sit-down restaurants, noted by the BCAC as the types of businesses they would like to locate to the Square, from the benchmark Squares could be targeted with information regarding leasing as an initial step in getting them to locate a site in the area.

Short-term Alternative – Simple Pedestrian Improvements/Circulation Change

Key elements of this option include installation of curb extensions at major intersections to shorten crossing distances and to protect and formalize parking lanes. This option is shown in **Figure 21.**

This option would include:

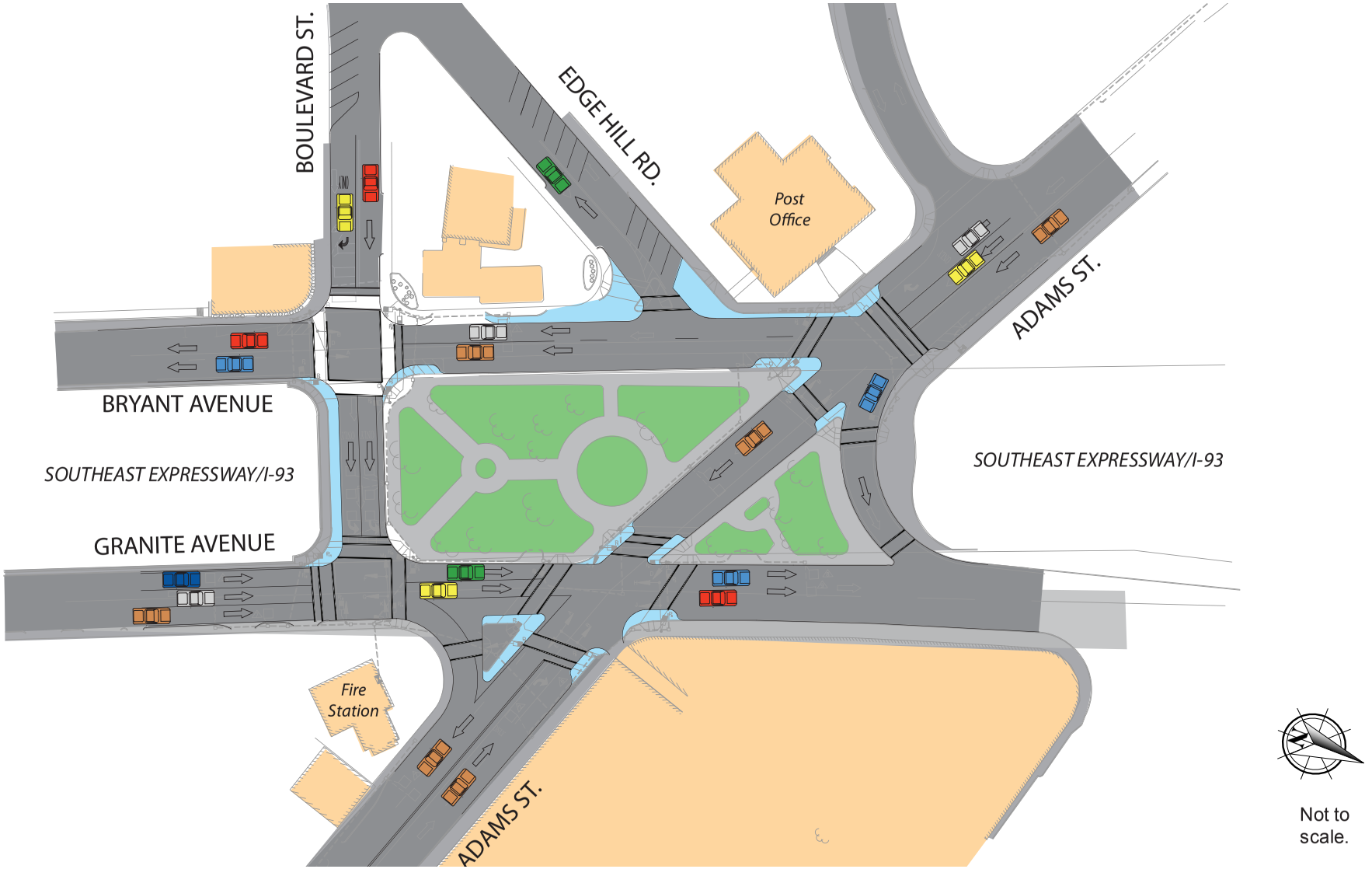
- Converting Edge Hill Road and Boulevard Street around the Shell Station to a one-way pair. Edge Hill Road would carry westbound traffic, while eastbound traffic would use Boulevard Street. This would create an opportunity for additional parking that could be used as a service zone or by postal employees relieving demand on "high desire" spaces closer to the center of the Square.

- The section of Adams Street over I-93 would be converted to a single lane, providing additional parking and improving the current situation where two eastbound lanes have to merge into one in front of the fire station.

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Pedestrian Improvements/ Circulation Changes	+	+	+	O	O	O	O	O	+	+

This option offers improvements in a number of areas. With regard to parking some additional spaces are created on Edge Hill Road and Boulevard Street helping to take pressure off the high-demand areas at the center of the Square. Consistent regulations and enforcement would also help to drive turnover. In terms of safety this option provides a more hospitable environment for pedestrians than current conditions and helps to define and protect parking lanes. This option is also positive from a cost and phasing standpoint as it is consists mostly of pavement markings and signage and could be a step along the way to one of the more ambitious long-term schemes. Given the limited changes made to the Square it is neutral in terms of cut-through traffic, economic development, mobility, the environment, aesthetics/open space and land use.

Figure 21. Short-term Alternative – Simple Pedestrian Improvements/Circulation Change



Other Short-term Alternatives

Changes to the Adams Street/Bryant Avenue Signal

During the course of the public involvement process, the intersection of Adams Street/Bryant Avenue was identified both by BCAC members and audience members at community meetings as being particularly difficult for pedestrians. Community and BCAC members frequently commented that motorists at this location do not see the pedestrian signal which protects the crosswalk, since it is frequently green, and instead focus on the signal at Adams Street/Granite Avenue. This often leads to vehicles driving through the crosswalk even while pedestrians are attempting to cross Adams Street. This condition is exacerbated by the length of this crosswalk: 61 feet from curb-to-curb.

To remedy this dangerous situation, the project team suggests installing a new signal head over the left lane of Adams Street eastbound. In addition, strobe lights should be added to the red signal indications to draw motorists' attention when the signal is red.

Two-Way Traffic Operations on Granite Avenue

Based on suggestions independently received from both MassDOT and members of the community, the project team analyzed the potential value of converting Granite Avenue to two-way operation between Wood Street and Adams Street. It was determined that this option would worsen traffic operations in the Square significantly in part due to the complication of the Adams Street/Granite Avenue intersection. Therefore, this option was not pursued further.

Traffic Calming Options

Through the public involvement process, the project team has discovered that cut-through traffic is a significant issue for residents living on the streets surrounding the Square. Streets frequently mentioned as having cut-through traffic problems included, but were not limited to Governors Road, Franklin Place, Belcher Circle, and Emerson Road.

While cut-through traffic is not explicitly within the scope of the Parking and Access Study, the project team has been careful to avoid proposing options which could intensify the problem. Some of the proposed options could ameliorate the cut-through situation by smoothing the flow of vehicles on main roads such as Adams Street thereby pulling through traffic out of the neighborhoods to the main streets where it belongs.

The project team and BCAC are aware that a separate, town-appointed committee is currently considering the issue of cut-through traffic on residential streets. We recommend that this body consider the neighborhood streets around the Square holistically to avoid simply pushing the undesired traffic from one street to another. In addition, we have suggested to the Town, BCAC, and community a menu of traffic calming options which could be implemented in the neighborhoods surrounding the square. They include:

- *Curb extensions*, also known as bump-outs, and already existing on some of the crosswalks in East Milton Square. By bringing the curb out into the street, curb extensions narrow streets and slow traffic while shortening crossing distances for pedestrians.

- *Speed humps* are a larger version of speed bumps. The humps are more gradual so as to slow vehicles without the jarring sensation for passengers. Additionally, speed humps do not go all the way to the curb to allow for drainage. Typically white triangles or yellow arrows are painted on the hump to alert motorists to its presence. They represent a strong deterrent to cut-through traffic.

- *Raised crosswalks* take speed humps up a level by bringing the crosswalk to the level of the sidewalk. Raised crosswalks can be supplemented with lights that flash when a pedestrian is crossing.

- *Raised or tabled intersections* raise the entire center area of an intersection to the level of the sidewalk. Such intersections have a strong impact on vehicle speeds. Pavement markings are often used to warn approaching motorists of the raised pavement. Raised intersections can incur drainage issues and tend to require more complex design.

- *Chicanes* are curb extensions which make traffic slow down by forcing it to shift first left and then back to the right. These generally work well on one-way streets, but can be adapted for two-way streets as well.

Changes to the Intersection of Adams Street/Wood Street Extension

The intersection of Adams Street/Wood Street Extension has also been identified as difficult location for both vehicles and pedestrians. The current configuration of the intersection requires pedestrians to cross two lanes of fast-moving traffic at the Wood Street Extension approach. For vehicles, the shape of intersection leads to weaving as cars turn onto Adams Street and attempt to choose the correct lane to turn left or right or continue eastbound into the Square. The project team and BCAC have two potential options for this location:

- Convert Adams Street/Wood Street Extension into a traditional T-intersection and signalize it. This option would shorten the crossing distance at the Wood Street

Extension approach and offer the possibility of creating another pedestrian crossing on Adams Street protected by a signal.

- Convert Adams Street/Wood Street Extension into a roundabout. This option could reduce some of the weaving problems currently noted just east of this location and may offer space for some additional angle parking along the north side of Adams Street.

Short-term Alternative – Parking Layouts

One charge of the study was to look at the possibility of improving the efficiency of existing off-street lots. The most viable candidate for a reconfiguration is the Milton Marketplace parking lot, which has the largest amount of off-street parking in the area, 184 spaces. A potential reconfiguration shows that due to the shape of the Milton Marketplace lot, only a handful of additional parking spaces could be created.

Mid-term Alternative – Reconnect Adams Street

This option was suggested by a resident at the project's initial community meeting in November 2010 and would return Adams Street over I-93 to two-way circulation. The intersection of Adams Street and the Wood Street Extension would need to be reconfigured a signalized T-intersection to handle the change in traffic patterns. To enhance pedestrian comfort, bump-outs would be placed at most major crosswalks. As in the short-term option discussed earlier, reconnecting Adams Street assumes that Edge Hill Road and Boulevard Street would comprise a one-way pair with Edge Hill Road going west and Boulevard Street going east creating opportunities to create new on-street parking. However, this option is for the most part an even swap with existing conditions with regard to parking and much of the new parking created is on the far side of the Square east of I-93. Again, similar to the short-term plan, this mid-term plan represents an improvement with regard to vehicle circulation and could be a stepping stone to one of the long-term plans. This option is shown in **Figure 22.**

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Reconnect Adams Street	O	+	+	O	O	+	O	O	+	+

This option provides very little change to the Square's parking supply. However, it improves mobility by reconnecting Adams Street westbound over the Expressway. Changing the phasing and timing of the traffic signals in the Square could improve motorist safety by reducing driver frustration. Reconnecting Adams Street could improve cut-through traffic by providing a previously prohibited movement. From an environmental standpoint, this option

is positive, because optimizing the traffic signals around the Square will decrease the number of idling vehicles, improving air quality. No changes to the open space or aesthetics are proposed as part of this option. From a phasing perspective this option does not require a lot of changes to the existing curb lines, and so would not require significant construction staging. This option has a medium cost level associated with it, as it would require new traffic signals at the Wood Street Extension and at Bryant Avenue.

The intersections associated with this option include Adams Street/Bryant Avenue, Boulevard Street/Bryant Avenue, Boulevard Street/Granite Avenue, and Adams Street/Granite Avenue. As can be seen in **Figure 23,** these intersections will operate at LOS A, D, F, and C respectively during the 2030 a.m. peak. Assuming this approach, as is shown in **Figure 23**, the worst LOS in the four key intersections is Adams Street/Granite Avenue, which performs at LOS D in the a.m. and p.m. peak hours. The rest of the intersections either remain the same or improve in all cases. The intersection of Boulevard Street/Granite Avenue operates at LOS B under all conditions, achieved through signal optimization and the removal of the programmed delay the signal currently uses.

Figure 22. Mid-term Alternative – Reconnect Adams Street

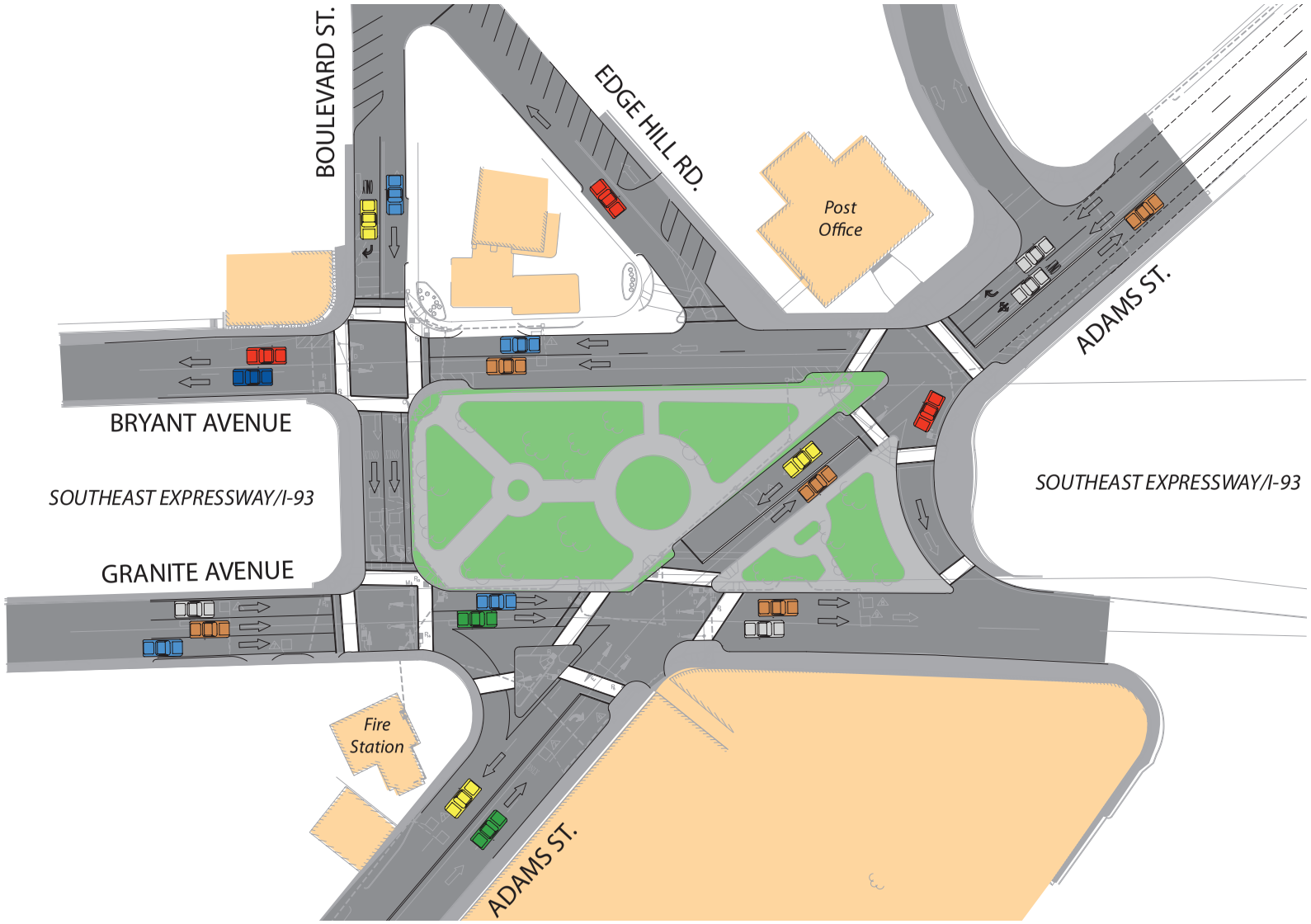
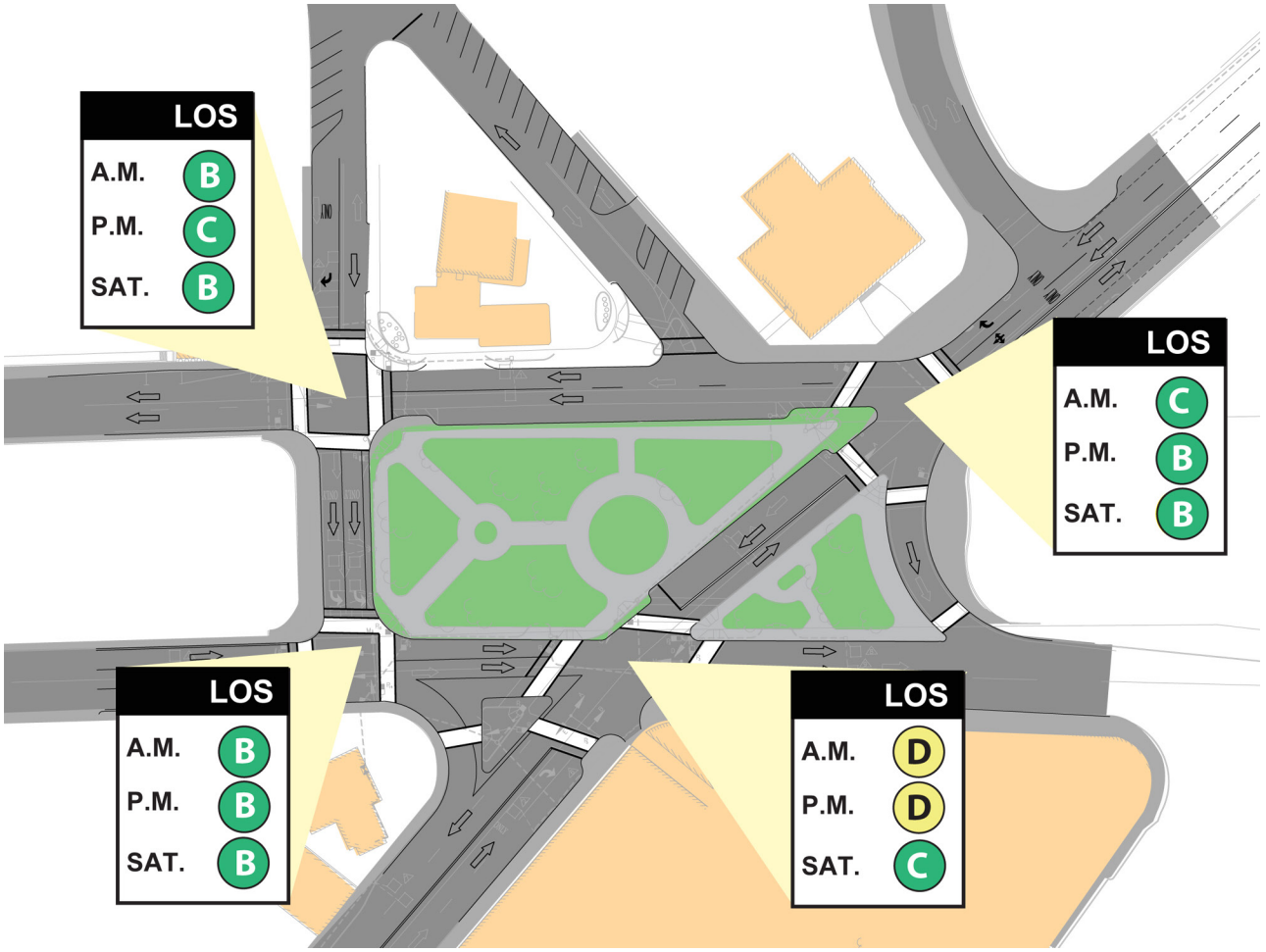


Figure 23. Capacity Analysis Summary: Reconnect Adams Street, 2030 Conditions



Level of Service Categories	
Level of Service	Average Delay (Seconds)
A	0-10
B	10-20
C	20-35
D	35-55
E	55-80
F	> 80

Not to scale.

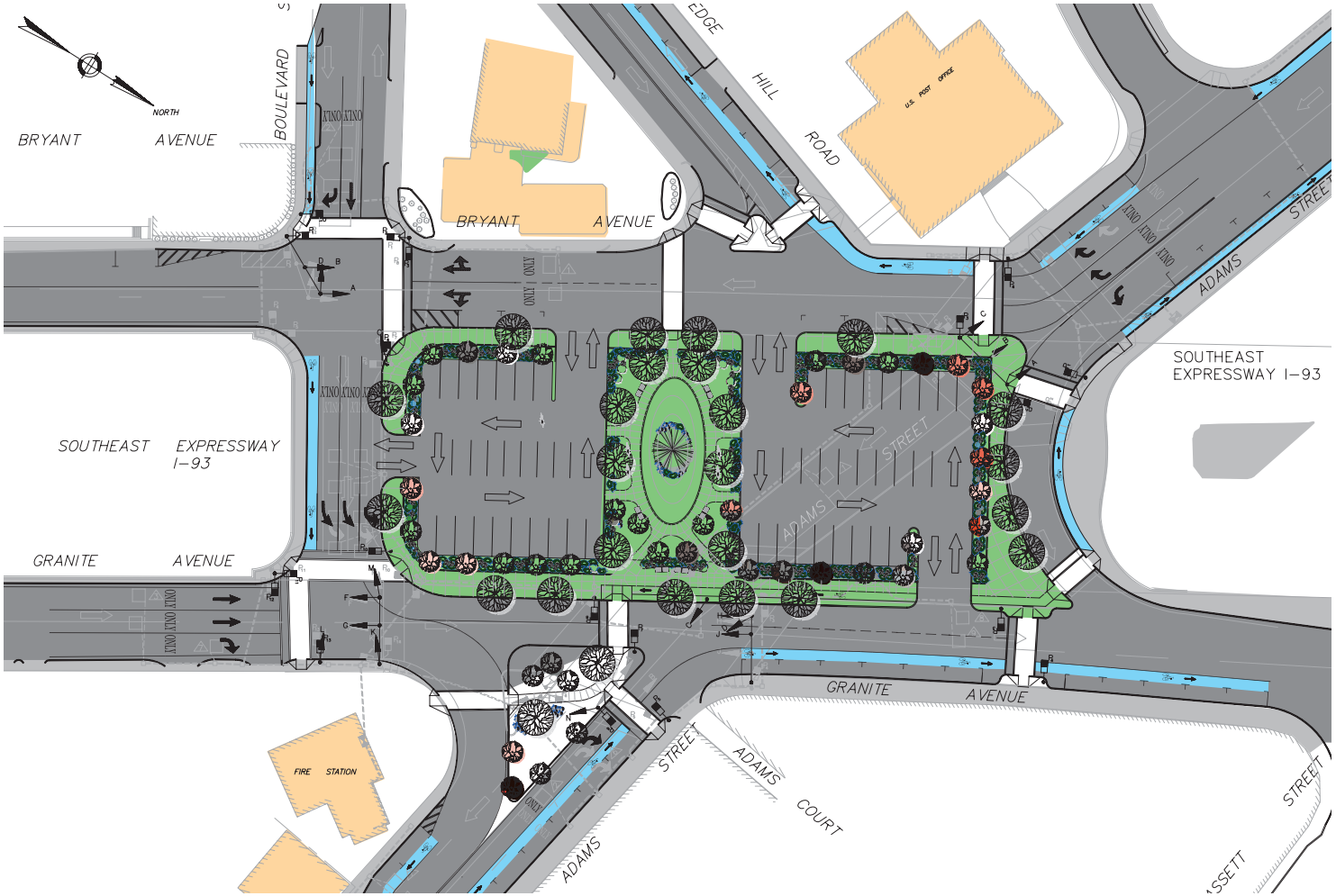
Long-term Alternative – Hybrid Alternative

This option represents the blending of the two plans originally considered separately by the BCAC: committee member Kurt Fraser's plan and the East Milton Revitalization Plan (EMRP) of the early 1990's. The EMRP plan created additional parking on the deck and provided some landscaping to soften the edges of the new lots; however, when analyzed, this option created some problems from a traffic circulation perspective. Mr. Fraser's plan offered improved circulation by leaving the Adams Street eastbound left-turn slip lane which currently connects Adams Street to Granite Avenue, but maximized the parking of the deck, removing nearly all landscaping.

To obtain the advantages of both plans, the BCAC decided to merge the two, retaining the slip lane to ease traffic circulation, while maintaining more of the green space on the deck to soften the new parking lots that would be created and to ensure that pedestrians would feel comfortable crossing the new lots. The hybrid option provides 50 spaces in the center of the deck, which is a net gain of 41 spaces. This option would close Adams Street over I-93 requiring eastbound through traffic to make a U-turn around the central parking area. While traffic operations improve at the intersection of Boulevard Street/Granite Avenue; they deteriorate at Boulevard Street/Bryant Avenue. As in the short- and mid-term options, pedestrian improvements would come chiefly by shortening crossing distances at major intersections around the I-93 deck. The new parking could increase the pedestrian presence on the deck since individuals would need to walk from these centrally-located spaces to their final destination in the Square. This presents an opportunity to connect the parking via pedestrian pathways into the various retail sub-districts of the Square. This option also introduces a cycle track, a separate facility for cyclists traversing the Square. As opposed to bike lanes or sharrows which assume that cyclists will ride in the street with automobiles, cycle tracks offer a physical separation between cars and cyclists, similar to a bicycle path, but still within the right of way. The option is shown in **Figure 24.**

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Hybrid Alternative	+	-	+	O	+	+	O	O	-	-

Figure 24. Long-term Alternative: Hybrid



The hybrid provides a moderate increase to the Square's parking supply. The parking is located near the merchants' front doors, which is desirable. It somewhat hinders mobility by removing the section of Adams Street over the Expressway. Changing the phasing and timing of the traffic signals in the Square could improve motorist safety by reducing driver frustration. From an environmental standpoint, this option is positive, because optimizing the traffic signals around the Square will decrease the number of idling vehicles, improving air quality. It also provides some amount of streetscape around the proposed parking areas for shielding and air quality benefits. From a phasing perspective this option does require some changes to the existing curb lines, but most of the construction would take place in the center of the deck, with little to no impact on traffic. There has been significant discussion regarding whether or not the deck can be used for parking. Commentary regarding this point has been obtained from MassDOT, FHWA, and Congressman Stephen Lynch's office, and it is generally agreed that the deck can be converted as outlined in the hybrid alternative. The BCAC has also discussed the monuments that currently sit on areas of the deck that would be converted to parking under this alternative. While a definitive action plan regarding these monuments has not been reached, the BCAC feels that a possible appropriate option would be to shift them to the landscaped pathway between the two parking lots, thus ensuring that they would be seen by everyone parking a car there. This option has a medium – high cost level associated with it.

One of the alternatives proposed to provide more parking in the place of the underutilized Manning Community Park could be taken a step further as an economic development opportunity. Provided the existing deck is determined to be capable of supporting additional structure, the proposed surface parking could be covered by an upper level structure that could provide approximately 16,000 sf of office space – in effect, two small buildings connected by a bridge that would span a landscaped pedestrian walkway connecting the two sides of the square with retail frontage. The retail frontage would consist of two retail spaces from 1,200-2,000 square feet each, as well as an office lobby providing access to the linked office spaces above.

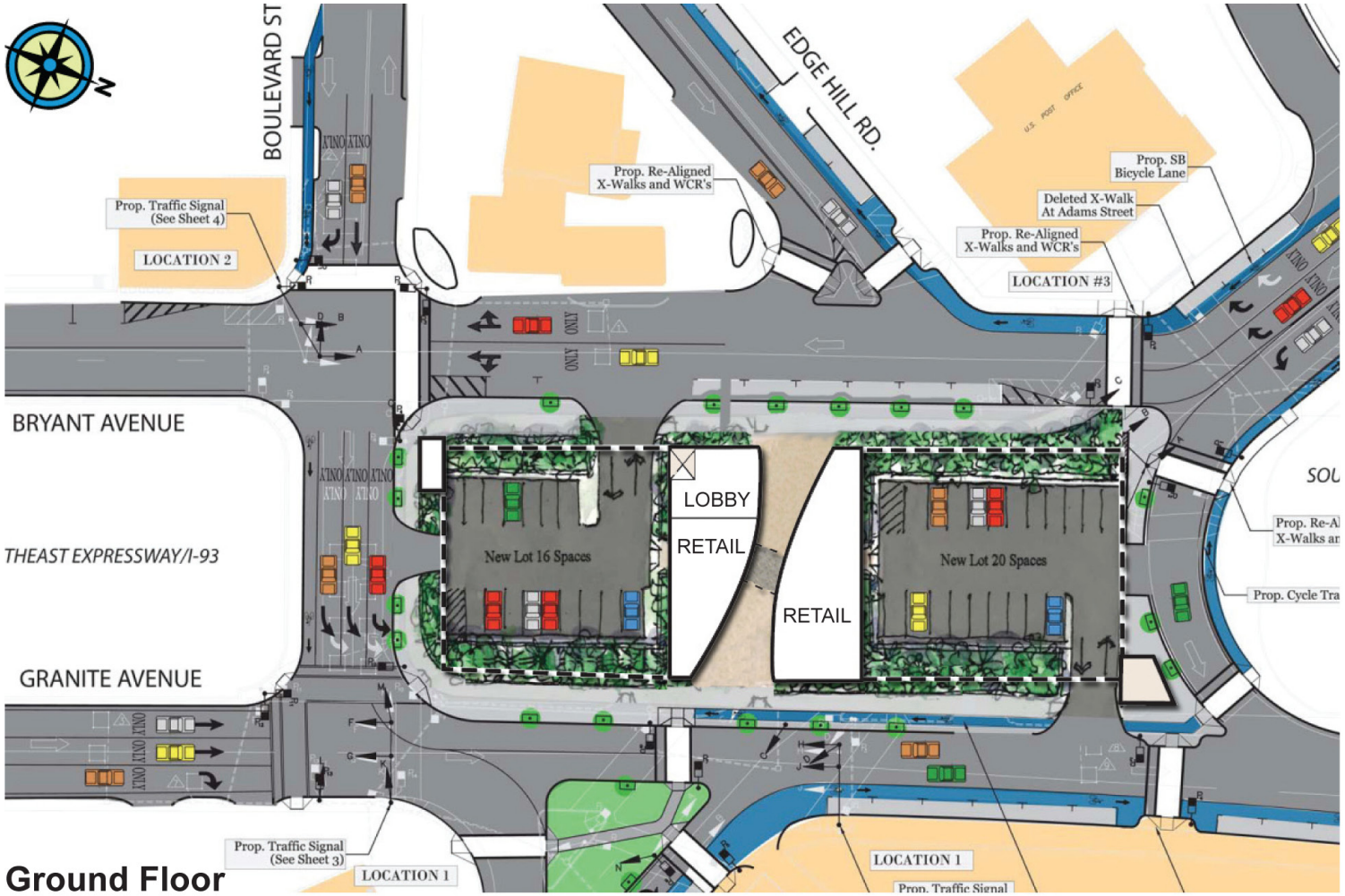
While providing less open space than the basic hybrid plan, this approach would generate pedestrian activity linking the two sides of East Milton Square across I-93, and better define both Granite Avenue and Bryant Avenue with two-sided development in the heart of the Square. It would also be visible to drivers approaching East Milton Square along I-93 from both north and south, further giving identity to the area as the gateway to Milton. The two levels are shown conceptually in **Figure 25** and **Figure 26.**

Many of the options discussed by the BCAC included the sub-option of converting Boulevard Street and Edge Hill Road to a one-way pair. Doing so offers two benefits: simplifying traffic flow and offering a moderate amount of additional parking on Boulevard Street and Edge Hill Road by reducing the amount of space needed in the right-of-way for travel lanes. This sub-option could be implemented with the hybrid plan. The project team and BCAC are aware that the Town-appointed traffic committee will be testing changes to the intersection of Boulevard Street and Edge Hill Road that may make the one-way pair sub-option difficult to implement. Therefore determining whether or not this sub-option can be done will require additional coordination.

The intersections associated with this option include Adams Street/Bryant Avenue, Boulevard Street/Bryant Avenue, Boulevard Street/Granite Avenue, and Adams Street/Granite Avenue. With 2010 volumes, all of the intersections operate at LOS C or better during the a.m. peak period. In the p.m. peak period the intersections of Adams Street/Bryant Avenue and

Adams Street/Granite Avenue perform at LOS A and C respectively, while the intersections of Boulevard Street/Bryant Avenue and Boulevard Street/Granite Avenue both operate at LOS F. During the Saturday midday peak, all intersections perform at LOS D or better. The capacity analysis summary of the hybrid alternative with 2010 volumes is shown in **Figure 27**. In 2030, as is shown in **Figure 28,** all of the LOS remain the same, except for the Boulevard Street/Granite Avenue which drops to LOS D during the a.m. peak period.

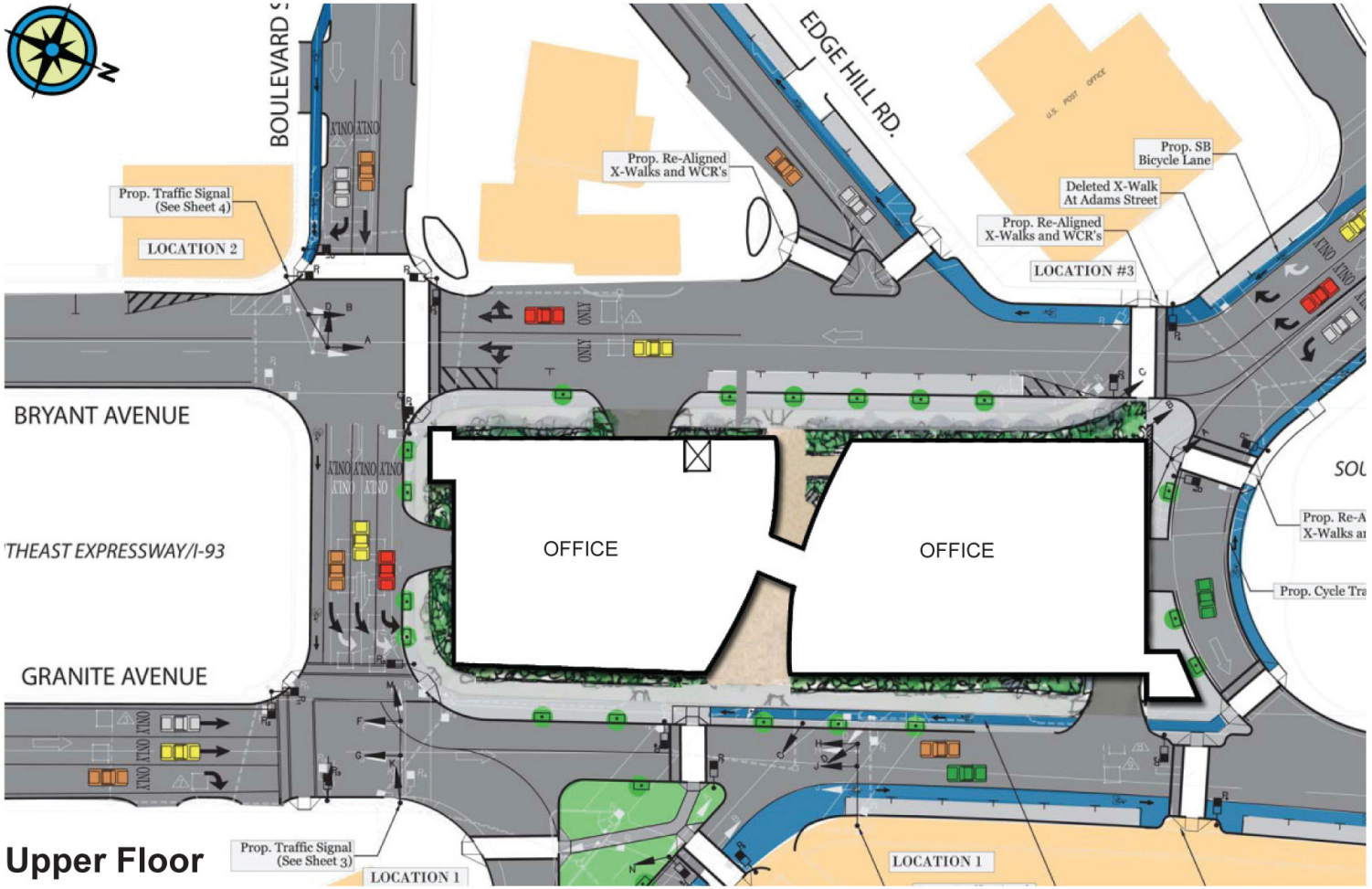
Figure 25. Hybrid Alternative with Economic Development, Street Level



RETAIL

3,000 - 4,000 SF +/-

Figure 26. Hybrid Alternative with Economic Development, Second Level



OFFICE

16,000 SF +/-

Figure 27. Capacity Analysis Summary: Hybrid Alternative, 2010 Conditions

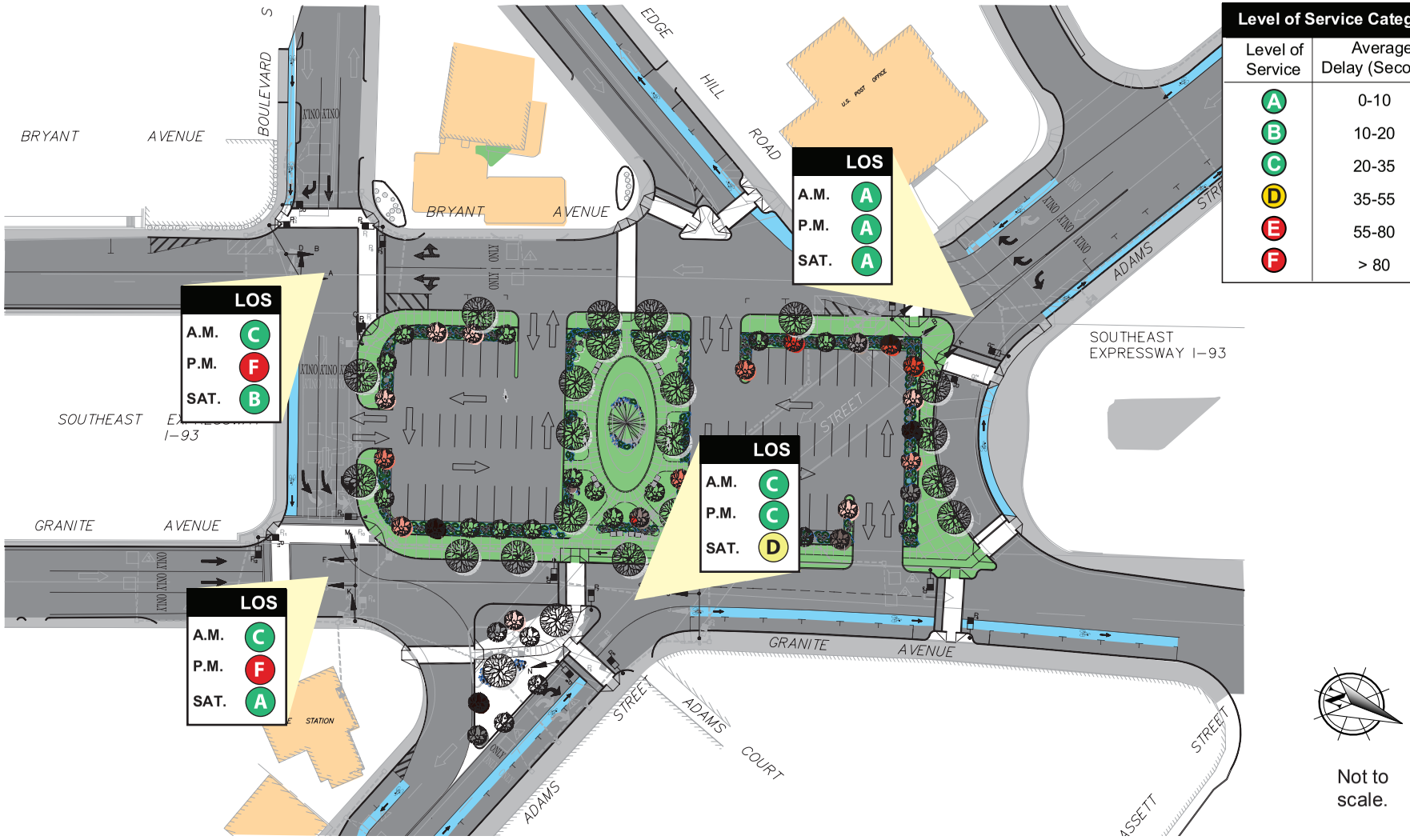
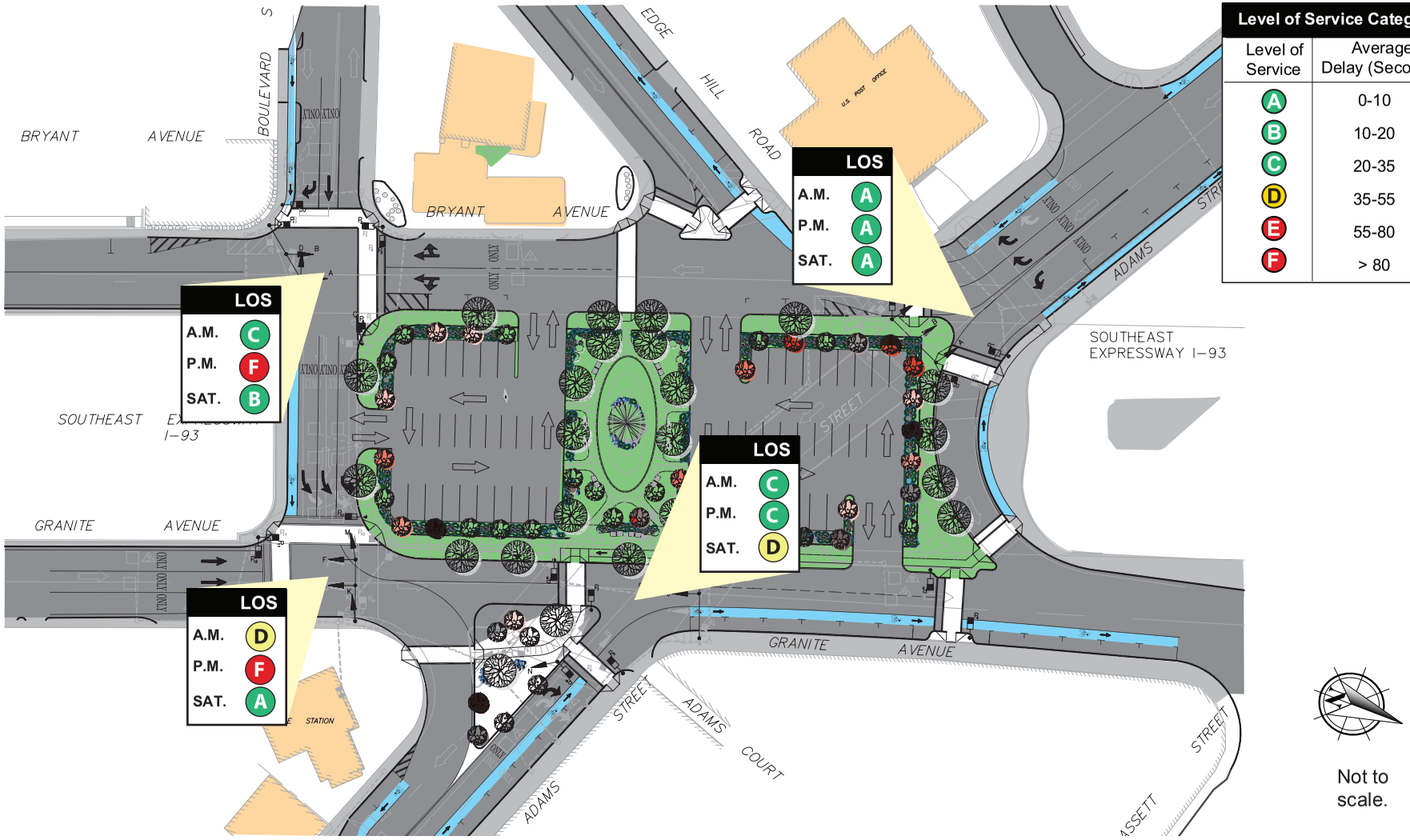


Figure 28. Capacity Analysis Summary: Hybrid Alternative, 2030 Conditions



Long-term Alternative – Modern Roundabout

The genesis of this plan was a reaction by the consultant team to comments made by community members that Manning Community Park might be more pleasant if it were not surrounded on all four sides by busy roadways. While it was determined that Granite Avenue and Bryant Avenue could not be realigned into the center of the I-93 deck, the consultant team discovered that it would possible to maintain some green space, create approximately 36 new parking spaces, an increase of 22 spaces, near the existing corner of Adams Street/Granite Avenue and calm traffic through the construction of a modern roundabout. This new parking lot would be configured to prevent cut-through traffic from using it to bypass the roundabout.

Roundabouts should not be confused with rotaries. While the round shape and operation are similar, roundabouts are smaller and act as traffic calming devices. Rotaries tend to be large and facilitate the movement of high volumes of fast-moving traffic. In this case, the roundabout would be designed to force cars to travel at 15-20 mph while providing adequate clearance for large trucks and fire engines through the use of a truck apron. The roundabout option is shown in **Figure 29.**

In this scheme, Adams Street would be returned to two-way operation, requiring changes to the intersection of Adams Street/Wood Street Extension as discussed previously in the mid-term option. Boulevard Street and Edge Hill Road would be converted to a one-way pair with Edge Hill Road eastbound and Boulevard Street westbound. An access road is provided for the Shell Station on Bryant Avenue.

With regard to circulation, vehicles would move through the roundabout as follows:

- On Granite Avenue northbound, cars could stay in the right lane to access Adams Street eastbound or continue on Granite Avenue going northbound. From the left lane, cars could access Granite Avenue northbound, Adams Street westbound, or even make a u-turn around the center island to Bryant Avenue/I-93 southbound.
- On Adams Street eastbound, cars would use the left lane to continue east on Adams Street, and to access Granite Avenue northbound or Bryant Avenue southbound. The right lane would provide access to Boulevard Street westbound or Bryant Avenue southbound.

Westbound vehicles on Adams Street could use both lanes to access Granite Avenue northbound, and the left lane to continue on Adams Street or to access Bryant Avenue or Boulevard Street.

This approach also has the opportunity to generate pedestrian activity linking the two sides of East Milton Square across I-93 better define both Granite Avenue and Bryant Avenue with two-sided development in the heart of the Square. Potential structures on parcels A and B in **Figure 30** would be visible to drivers approaching East Milton Square along I-93 from both north and south, further giving identity to the area as the gateway to Milton. The structures could also help to better define the space as the center of the Square for pedestrians.

With 2010 traffic volumes, the roundabout itself performs at LOS C or better during all peak periods. The capacity analysis summary is shown in **Figure 31**. With 2030 traffic volumes, shown in **Figure 32,** the roundabout performs at overall LOS D during all peak periods. The LOS for both 2010 and 2030 conditions are heavily impacted by the Granite Avenue approach, which operates at LOS E or worse in all peak hours. The Adams Street eastbound and westbound approaches operate at LOS B during all peak hours in both 2010 and 2030.

The roundabout offers the most consistently smooth-flowing traffic and continues to impose a significant delay on traffic moving north on Granite Avenue. All LOS are calculated assuming no diversion of traffic; however, it is possible that the slowing of traffic caused by the roundabout could cause some traffic to divert away from the Square.

Figure 29. Long-term Alternative – Modern Roundabout

Figure 30. Modern Roundabout Alternative with Economic Development

SMALL SCALE RETAIL COMPONENTS

Building A: **1,200 SF** (Approximately)

Building B: **900 SF** (Approximately)

Not to scale.

Figure 31. Capacity Analysis Summary: Modern Roundabout, 2010 Conditions

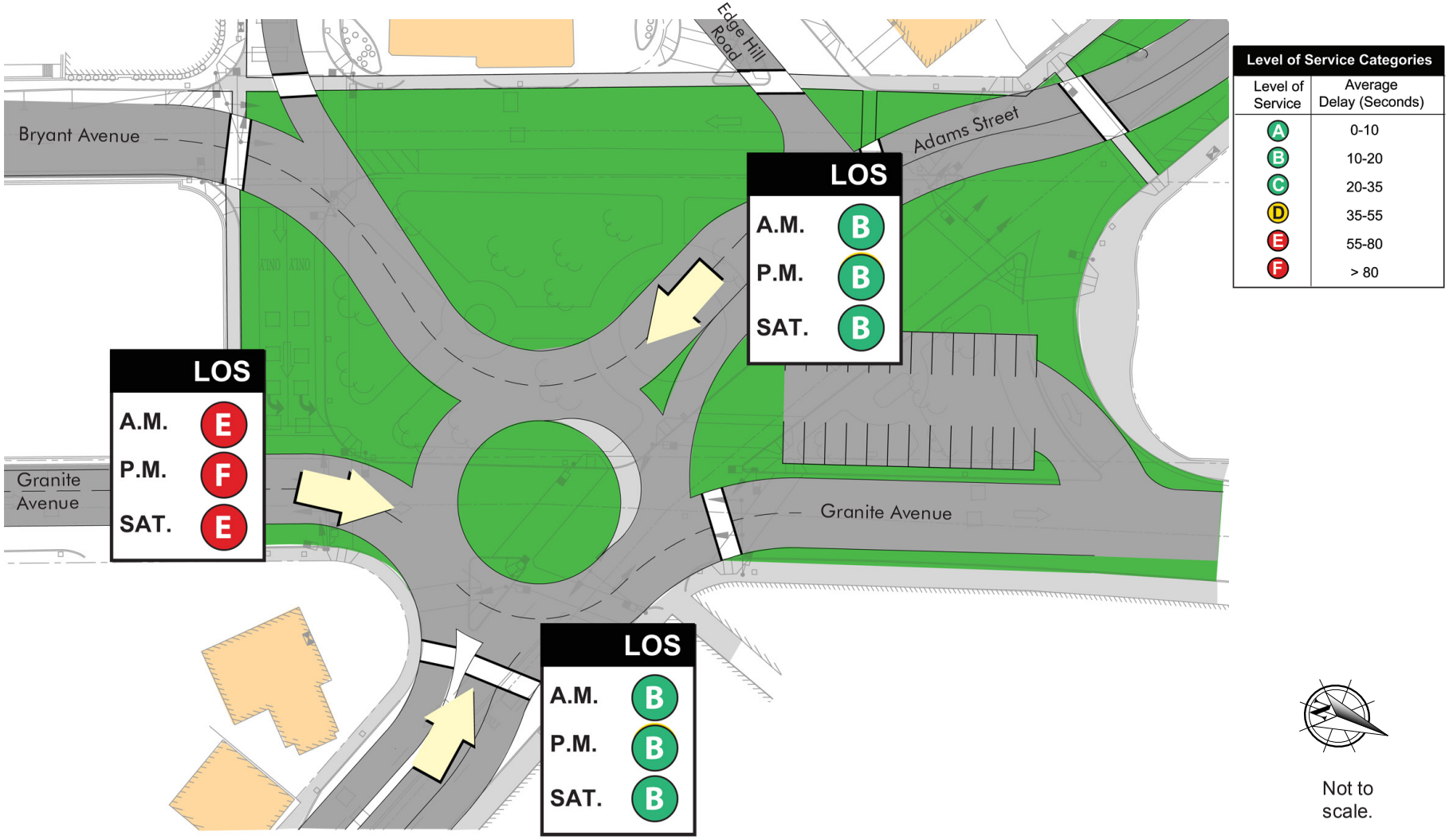
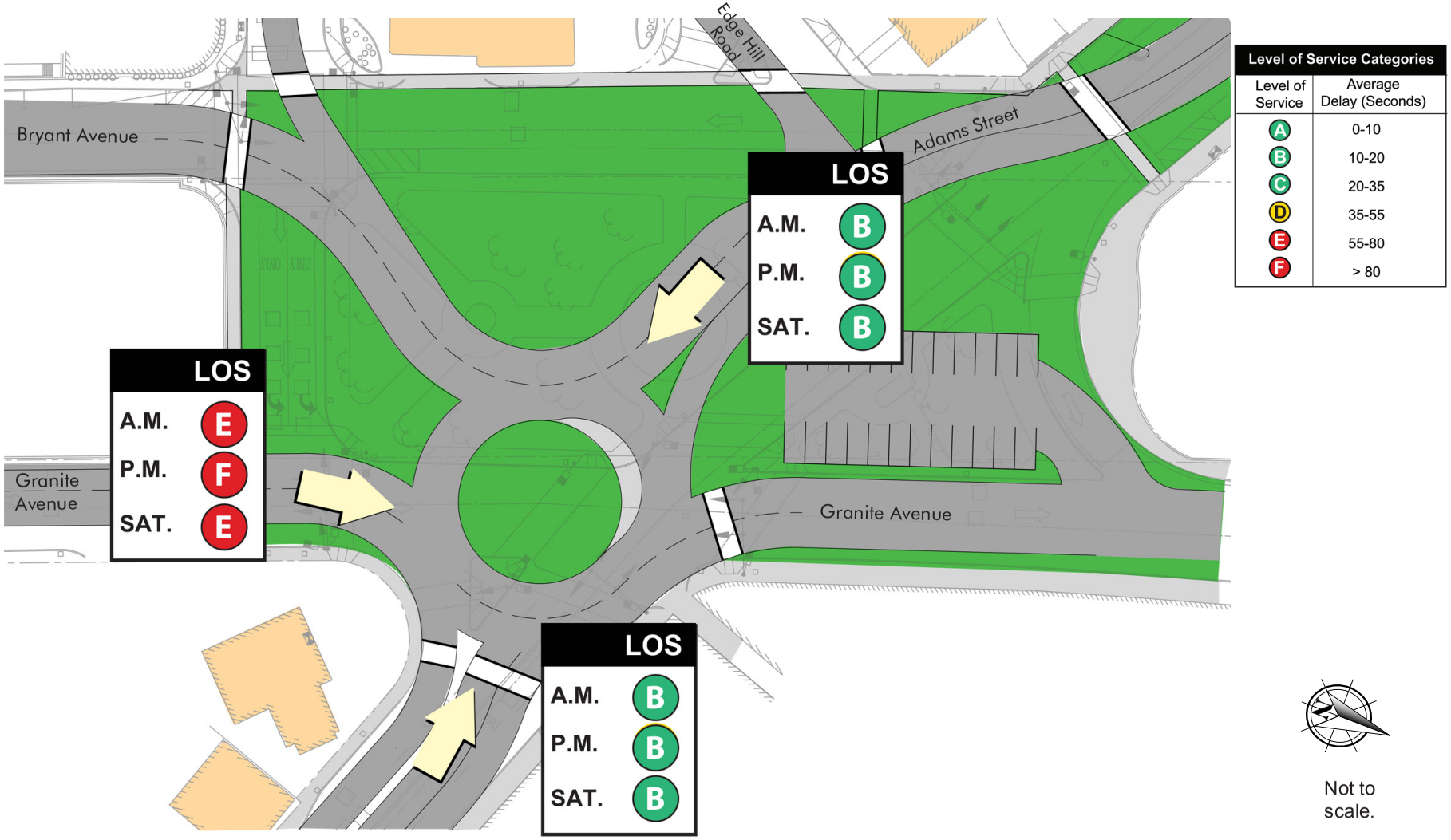


Figure 32. Capacity Analysis Summary: Modern Roundabout, 2030 Conditions



Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Roundabout	+	+	+	O	O	+	+	O	-	-

The roundabout alternative, as currently conceived, can provide a net gain of 37 parking spaces in the center of the Square. There is the potential to add more spaces on the west side of the roundabout adjacent to the gas station, if desired. The roundabout improves mobility by reconnecting Adams Street westbound over the Expressway. It improves safety by slowing and calming traffic. Slower moving traffic means that not only the number but also the severity of crashes should decrease. Roundabouts are generally considered safer for pedestrians because the traffic is moving slower, and because pedestrians generally only cross one direction of travel at a time. The roundabout will provide environmental benefits, improving air quality by reducing the number of idling vehicles. It also has the potential to be able to replicate the highest amount of open space and streetscape in the Square. The roundabout will have no impact, positive or negative, on local businesses or on land use. It may have a positive impact on the surrounding residential neighborhoods if motorists no longer cut-through to avoid the traffic signals in the Square. The roundabout has the highest construction cost of all the alternatives because all the roadways would need to change. The construction staging and traffic management during construction will be challenging.

Long-term Alternative – Zoning Changes

The BCAC recommends the following modest zoning changes to two locations in the Square:

- An overlay district would be created on Mechanic Street, creating a mixed use zoning or planned unit development (PUD) overlay similar to those already in place in the Central Avenue and Milton Village districts. This overlay would allow low-intensity office businesses such as doctors, lawyers, and insurance agents to occupy the first floor of buildings along the street while maintaining residences on the upper floors. The larger lots on Mechanic Street would allow these businesses to provide their own off-street parking. This overlay would not undo the existing residential zoning, and any owner seeking to keep his or her property solely as a home would be free to do so.
- Bassett Street between Granite Avenue and Franklin Street would be rezoned as commercial to match the areas around it.

Long-term Alternative – Exit 11 Ramp Study

During the course of the study, members of the BCAC have frequently discussed the unique problem presented by I-93 Exit 10. This exit delivers a steady flow of vehicles to Granite Avenue just south of the Square throughout the day. This large traffic volume is made up of both local traffic accessing Milton and more regional traffic accessing Quincy to the east or bypassing congestion on I-93 and continuing north into Boston. To deter regional traffic, the signal at Boulevard Street/Granite Avenue has been intentionally timed to cause a lengthy delay on the Granite Avenue northbound approach. It has been noted by the project team and BCAC that this intentional delay is only a partial success since it contributes to congestion as well as crashes at the intersection of Adams Street/Granite Avenue and penalizes both Milton residents and regional traffic.

In light of this, the BCAC recommends that a separate study be conducted into the feasibility of changing the geometry of Exit 11 to allow traffic leaving I-93 northbound to travel both north and south on Granite Avenue. Currently, traffic exiting I-93 at Exit 11 can only continue north towards Boston. The BCAC believes that if traffic were allowed to travel south on Granite Avenue it could reduce some of the pressure on Exit 10 and the Square by pulling traffic seeking to access Quincy via Squantum Street further north to Exit 11.

The BCAC and project team also recommend studying the feasibility of reducing the number of lanes on Granite Avenue north of the Square. At two lanes in each direction, this section of Granite Avenue appears to be overbuilt for the volumes it currently carries. If this road could be narrowed, some of the right-of-way could be reclaimed for a cycle track and/or mixed use pathway. This would address several of the goals and objectives developed by the BCAC by improving the bicycle and pedestrian connections between the Square and the Neponset River Greenway, which in turn connects to other bicycle and pedestrian infrastructure.

Long-term Alternative: Additional Off-street Parking

The project team and BCAC have considered a number of locations to provide additional off-street parking. The locations discussed in the following pages were investigated by the BCAC in keeping with the committee's charge from the selectmen to think broadly and investigate all possible options. These locations have since been dismissed based on a host

of factors including expense and disruptions to the residential areas around the Square; however, had any of these options been pursued, and they will not be, it would have been the recommendation of the BCAC to acquire the property through a negotiated purchase with the owner.

The discussions addressing off-street parking considered 5, potential locations to create new off-street parking: Bassett Street and Adams Court; Bassett Street adjacent to the Fruit Center; 556 Adams Street (old Milton Theater parcel); the 594 Adams Street parcel; and the 569-571 Adams Street/21 Mechanic Street parcels. All of the options that create additional off-street parking receive a negative environmental benefits rating. Providing additional parking is widely regarded to induce more vehicle trips. In addition, some of the properties discussed are partially to largely unpaved. In a situation where an unpaved surface is replaced with a paved one, there is generally an increase in storm-water runoff and a decrease in groundwater recharge. These options also receive negative ratings in terms of protecting surrounding residential areas since they would remove occupied homes to create parking and potentially increase cut-through traffic as vehicles seek to access parking. Each of the additional off-street parking options is discussed in more detail in the sections that follow.

Bassett Street and Adams Court

Two of the potential options focus on the section of Bassett Street between Granite Avenue and Franklin Street. There is a possibility of creating 43 new parking spaces behind the line of businesses on Granite Avenue. This would require the purchase and removal of one home on Adams Court and three homes along the south side of Bassett Street between Adams Court and Franklin Street. This option is shown in **Figure 33.**

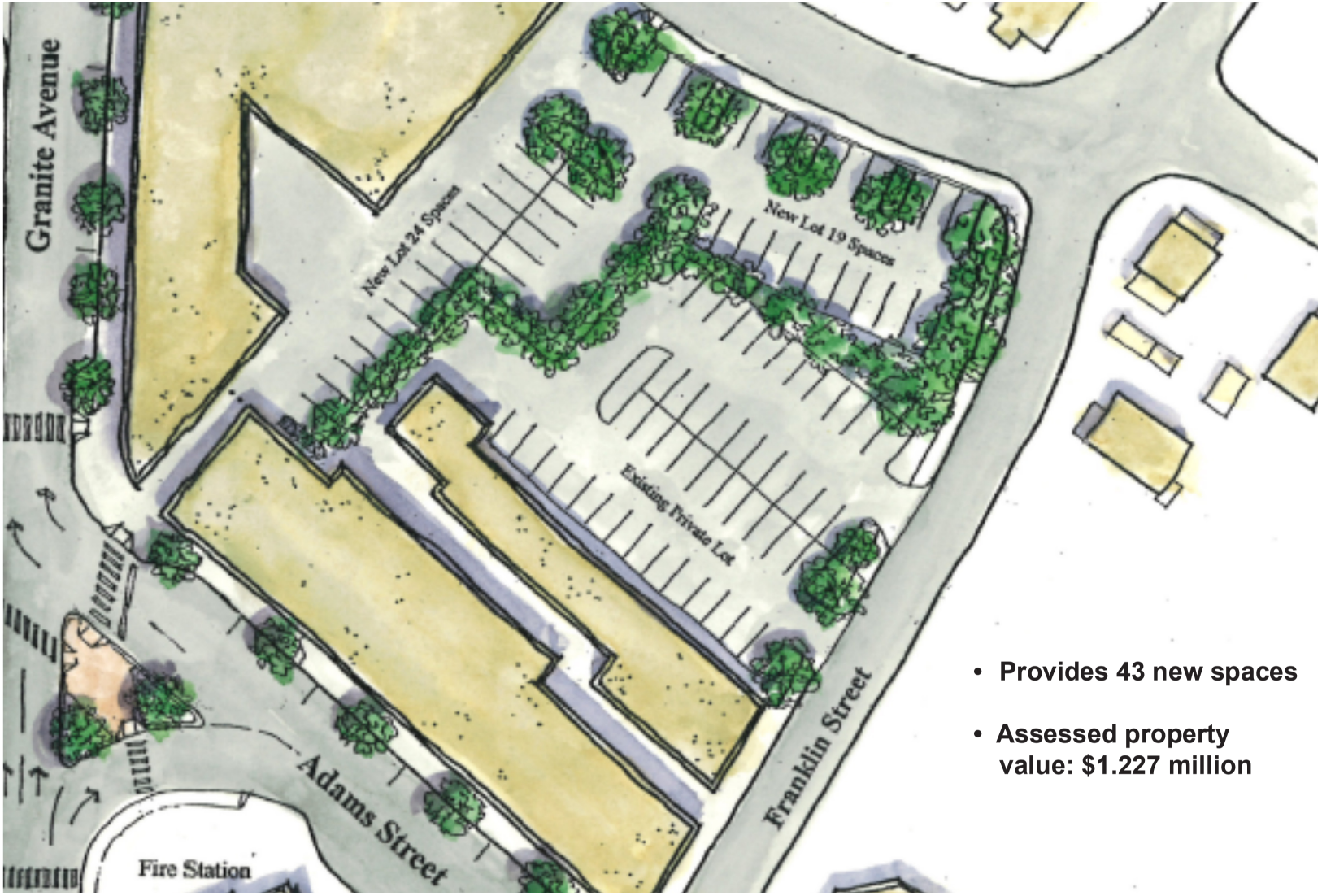
Based on the Town Assessor's database, the properties to be acquired are valued at $1.22 million. The fair market value to acquire the properties is likely to be higher. The average construction cost per space for surface parking lots is approximately $4,000 per space, resulting in an order of magnitude construction cost of $172,000. Adding the cost of acquiring the properties (at their assessed values), gives a total cost of approximately $1.392 million, or $32,000 per space.

Given the vertical grade difference between Adams Street and Bassett Street, a parking deck could also be built at this location, providing a total of 86 new spaces. Structured parking typically costs would approximately $20,000 per parking space to construct, resulting in an order of magnitude construction cost of $1.72 million. Ramps are not a requirement because of the grade difference, which would allow access to the lower level from Bassett Street and the upper level, with an easement, from Franklin Street. If ramps were used to connect the two levels, around 25% of the parking would be lost to provide space for the ramps.

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
Bassett Street/Adams Court Parking Lot	+	O	O	-	+	O	O	O	-	O
Bassett Street/Adams Court Parking Garage	+	O	O	-	+	O	O	O	-	O

This option provides an increase to the Square's parking supply and could, assuming the accuracy of comments made by area merchants in community meetings provide an economic boost to the area by allowing more people to access local businesses. It is neutral in terms of mobility and safety. Creating parking on Bassett Street may add more traffic to this residential street as motorists seek to access the new lot and possibly idle on the road waiting for spaces to become available. From an environmental standpoint, this option is somewhat negative since providing additional parking tends to be an inducement to drive while also creating additional impervious surface area; however, appropriate landscaping treatments could soften the aesthetic impact of this option. From a phasing perspective this option could be done at any time, however it represents one of the higher-cost alternatives discussed by the BCAC. If a parking structure were to be built, much of what was said above would remain accurate, however the cost would rise significantly. It is also possible that the time associated with overcoming the resistance of homeowners to having their homes acquired and demolished for parking could add to the cost of this option.

Figure 33. Potential Parking Layout, Bassett Street/Adams Court



- **Provides 43 new spaces**
- **Assessed property value: $1.227 million**

Not to scale.

North Side of Bassett Street

The north side of Bassett Street offers another possible location to create additional parking through expansion of a parking area currently leased by the Town. Expansion would require he acquisition of one house on the north side of Bassett Street and two on the corner of Bassett Street and Franklin Street. The acquisition of these parcels could provide 49 new parking spaces. A parking layout for these parcels is shown in **Figure 34.**

These properties are assessed at $1.04 million. The cost of acquiring the currently leased parking area would be an additional cost. The average construction cost per space for surface parking lots is approximately $4,000 per space, resulting in an order of magnitude construction cost of $196,000. Adding the cost of acquiring the properties (at their assessed values), gives a total cost of approximately $1.236 million, or $25,000 per space.

A parking deck could also be created at this location, but ramping would be required to connect the two levels. This would yield approximately 90 new parking spaces. Structured parking typically costs would approximately $20,000 per parking space to construct, resulting in an order of magnitude construction cost of $1.8 million.

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
North Side of Bassett Street Parking Lot	+	O	O	-	+	-	O	O	-	O
North Side of Bassett Street Parking Garage	+	O	O	-	+	-	O	O	-	O

This option offers even more parking than that discussed for the south side of Bassett Street and much of what was said regarding that option is also accurate for this one. While the cost of acquiring the properties in question is slightly lower, and fewer homes would need to be purchased and demolished, this option includes the added complication of needing to acquire the parcel of land currently leased by the Town. This parcel is part of 360 Granite Avenue. Additionally, while a parking structure at this location would add significantly to the parking available, it would require ramping, which increases the cost of the structure and deducts some spaces.

Figure 34. Potential Parking Layout, North Side of Bassett Street

556 Adams Street/10 Church Street Parcels

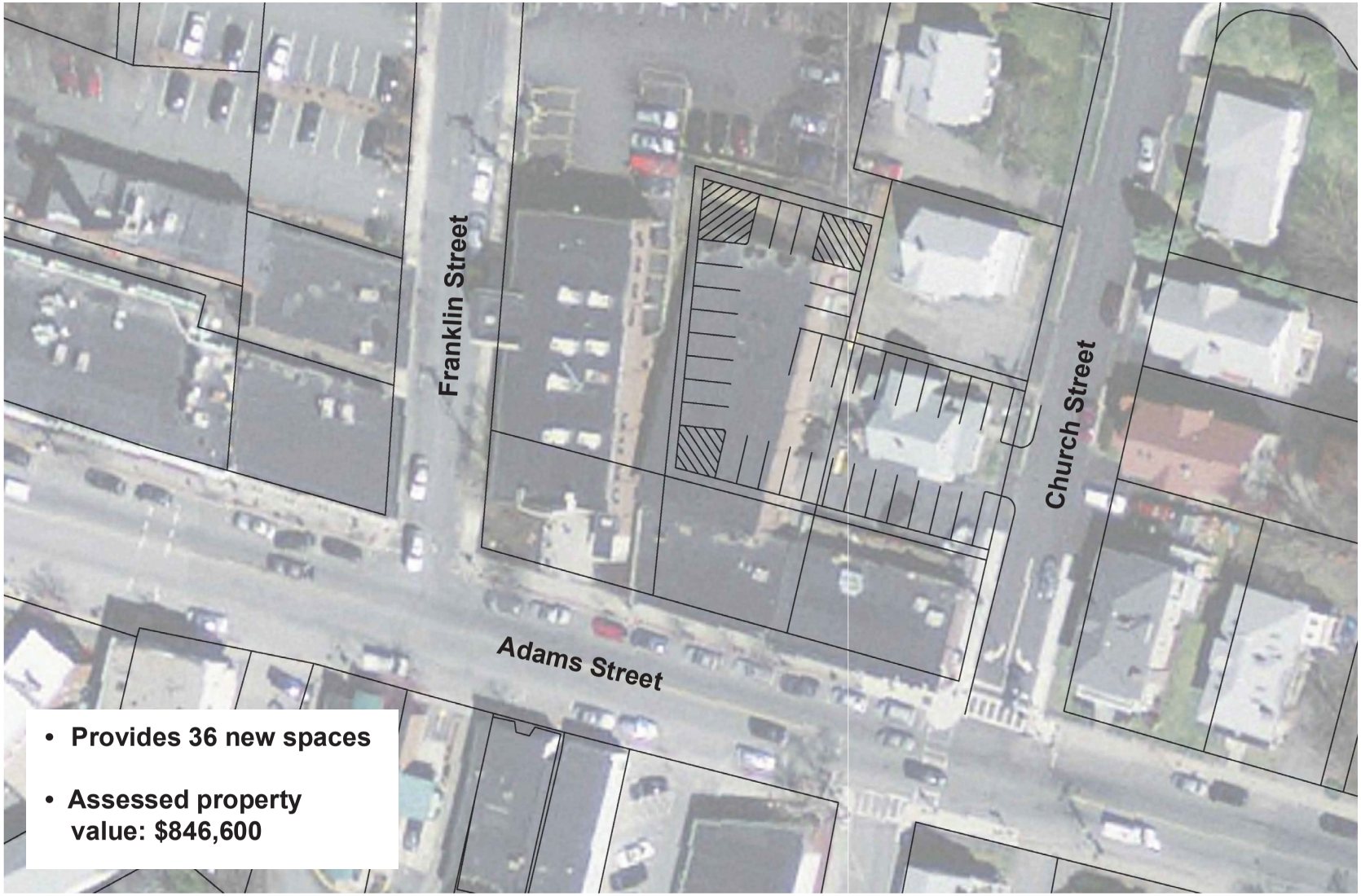
The Milton Cinema parcel offers another opportunity to provide off-street parking. The study team considered this parcel in combination with the parcel at 10 Church Street in order to maintain a portion of the building and keep the continuous façade on Adams Street. The access to the parking lot would be provided from Church Street. To create this parking lot would require he acquisition of two properties. The acquisition of these parcels could provide 36 new parking spaces. A parking layout for these parcels is shown in **Figure 35.**

These properties are assessed at $846,600. The fair market value would likely be higher. The average construction cost per space for surface parking lots is approximately $4,000 per space, resulting in an order of magnitude construction cost of $144,000. Adding the cost of acquiring the properties (at their assessed values), gives a total cost of approximately $990,600, or $27,500 per space.

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
556 Adams Street/10 Church Street Parking Lot	+	O	O	-	+	-	O	O	-	O

This option provides an increase to the Square's parking supply and could, assuming the accuracy of comments made by area merchants in community meetings provide an economic boost to the area by allowing more people to access local businesses. It is neutral in terms of mobility and safety. Creating parking at this location could have an impact on cut-through traffic since the new lot would be accessed from Church Street. From an environmental standpoint, this option is somewhat negative since providing additional parking tends to be an inducement to drive while creating additional impervious surface area, however appropriate landscaping treatments could soften the aesthetic impact of this option. From a phasing perspective this option could be done at any time. This option does require the purchase and demolition of an occupied home which may add significantly to the time and expense associated with implementing it.

Figure 35. Potential Parking Layout, Adams Street/Church Street



Not to scale.

594 Adams Street

The property at 594 Adams Street is a relatively large parcel just outside the business district. The parcel appears to be relatively flat, although the study team was unable to access the north side of the parcel.

The assessed value of the parcel is $510,300. The fair market value of the property would likely be higher. This parcel could provide as many as 81 spaces. The average construction cost per space for surface parking lots is approximately $4,000 per space, resulting in an order of magnitude construction cost of $324,000. Adding the cost of acquiring the property (at its assessed values), gives a total cost of approximately $834,300, or $10,300 per space.
A potential layout is shown in **Figure 37.**

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
594 Adams Street Parking Lot	+	O	O	-	+	-	O	O	+	O

This option provides a large increase to the Square's parking supply and could, assuming the accuracy of comments made by area merchants in community meetings provide an economic boost to the area by allowing more people to access local businesses. It is neutral in terms of mobility and safety. Creating parking at this location would not have an impact on cut-through traffic since it would be accessed from Adams Street. From an environmental standpoint, this option is somewhat negative since providing additional parking tends to be an inducement to drive while creating additional impervious surface area. Landscaping treatments could soften the aesthetic impact of this option. From a phasing perspective, this option could be done at any time. This option does require the purchase and demolition of an occupied home which may add significantly to the time and expense associated with implementing it.

569-571 Adams Street/21 Mechanic Street

The properties at 569-571 Adams Street/Mechanic Street combine into a relatively large parcel just outside the business district. The parcel appears to be relatively flat.

The assessed value of the parcel is $506,100. The fair market value of the property would likely be higher. This parcel could provide as many as 32 spaces. The average construction cost per space for surface parking lots is approximately $4,000 per space, resulting in an order of magnitude construction cost of $128,000. Adding the cost of acquiring the properties (at their assessed values), gives a total cost of approximately $634,100, or $19,815 per space.
A potential layout is shown in **Figure 37.**

Figure 36. Potential Parking Layout, 594 Adams Street

Not to scale.

Figure 37. Potential Parking Layout, 569-571 Adams Street/ 21 Mechanic Street

Option/Criterion	Address Local Parking Concerns	Provide Demonstrable Mobility Benefits	Improve Safety for All Users	Protect Surrounding Residential Areas	Foster Local Business	Provide Demonstrable Environmental Benefits	Improve Aesthetics and Activate Open Space	Include Projected Land Use Changes	Balance Cost with Benefit	Construction Phasing/ Project Phasing
569-571 Adams Street/21 Mechanic Street Parking Lot	+	O	O	-	+	-	O	O	+	O

This option provides a moderate increase to the Square's parking supply and could, assuming the accuracy of comments made by area merchants in community meetings provide an economic boost to the area by allowing more people to access local businesses. It is neutral in terms of mobility and safety. Creating parking at this location would not have an impact on Adams Street, which already carries a large volume of traffic, but could contribute moderate new traffic volumes to Mechanic Street. From an environmental standpoint, this option is somewhat negative since providing additional parking tends to be an inducement to drive while creating additional impervious surface area. Landscaping treatments could soften the aesthetic impact of this option. From a phasing perspective, this option could be done at any time. This option, while the least expensive of the additional off-street parking schemes, does require the purchase and demolition of an occupied home which may add significantly to the time and expense associated with implementing it.

Locally Preferred Alternatives

The BCAC believes that the following steps will best achieve the goals and objectives laid out at the beginning of the East Milton Square Parking and Access Study:

- In the short-term (0-12 months), the wayfinding and curbside management plan discussed in this report should be implemented. It ranks positively on five of the evaluation criteria and is neutral in terms of the other five. This option is relatively inexpensive and can be achieved quickly providing some rapid relief to the issues identified in the Town's scope and through the public involvement process.
- In the intermediate-term (0-24 months), the Town should take the steps to begin implementation the Hybrid Alternative. The BCAC understands that issues of timing and cost remain to be worked out, but believes that this option presents the best opportunity to provide the Square with additional parking without resorting to the expensive and difficult acquisition of property.
- In the long-term (18 months at the very soonest), the Town should undertake steps to:
    - Rezone the segment of Bassett Street between Granite Avenue and Franklin Street as commercial and place the mixed-use zoning overlay on Mechanic Street.
    - Study the feasibility of changing the geometry of Exit 11 to allow traffic exiting I-93 at this location to travel either north of south on Granite Avenue.
    - Study the feasibility of narrowing Granite Avenue north of the Square with the aim of repurposing the reclaimed sections of the right-of-way to create a cycle track and/or mixed-use path to connect the Square with the Neponset River Greenway.

The BCAC categorically does not recommend the idea of acquiring property in order to create parking. Of the options studied, the least expensive would cost $634,100 based on assessed property values. Since fair market value would have to be paid to acquire the property, the cost would certainly be higher. It is also worth noting that neither MassDOT nor the Board of Selectmen support the idea of property acquisition.

Consultant Team's Recommendation

In the short-term, the consultant team believes that a combination of the Curbside Management and Wayfinding Plan and Simple Pedestrian Improvements/Circulation changes are the appropriate steps to take. These are relatively quick-to-implement, low cost options which improve the pedestrian environment, calm traffic, and provide a moderate amount of new parking while helping existing parking to function more efficiently. We believe that parking meters should be strongly considered by the Board of Selectmen regardless of reservations previously expressed by the Chamber of Commerce and some members of the BCAC. It is worth noting that the most expensive meter installation of $260,000 is $374,000 cheaper than the least expensive option to create additional off-street parking through the purchase and demolition of existing structures. The project team has also determined that used parking meters are currently available from the Town of Brookline and could be had for significantly less than an all-new installation.

The consultant team does not support the purchase of private property to create additional off-street parking lots or garages. Applying the evaluation criteria to those options showed that they do not meet most of the criteria and in fact have a negative impact on several. The options that create additional off-street parking are all costly as modeled on assessed values and will only increase in cost if fair market values are applied. Creating additional

surface parking has the environmental costs of inducing additional vehicle trips and creating additional impervious surface. Many of the properties under discussion are occupied homes the residents of which may not wish to be relocated leading to additional time and cost. Lastly, conversations with MassDOT suggest that the agency would look more favorably on those options that emphasize local and regional mobility rather than the demolition of occupied homes for parking.

In the long-term, the consultant team believes that the modern roundabout is most appropriate for East Milton Square. This option will calm traffic, provide a safer environment for pedestrians, and create additional parking just to the east of the local business district's core on Adams Street, Bassett Street, and Granite Avenue. The option also provides environmental benefits, improves mobility for all users, and respects the small town feel of East Milton Square. It may also have the added benefit of drawing traffic out of the surrounding residential neighborhoods as motorists will no longer seek to avoid the many signals in the center of the Square.

Funding Sources

The Town has $850,000 remaining in the $1 million earmark through which this study was funded. That earmark is funded through the High Priority Project (HPP) program. This program is 100% federally funded, with no Town or State match required.

MassDOT also discovered another earmark that provides an additional $1 million, of which 80% would be federally funded and 20% would be funded through a Town or State match. If the second earmark is used for design, the Town must fund the 20% match; if the earmark is used for construction, MassDOT would provide the matching funds.

Should the combination of the two earmarks not be sufficient to fund the Locally Preferred Alternatives (LPAs), the Town could consider other funding sources, such as the MassWorks program, the new umbrella of funding sources that includes programs such as Public Works Economic Development (PWED) grants. The Town could also consider federally-funded grant programs, such as Congestion Management Air Quality (CMAQ) grants, Clean Air and Mobility Program (CLAMP), and others. These programs could be particularly useful if some of the LPA pieces are considered to be too far away from the heart of the Square to be funded through the federal earmarks.

Next Steps

The following outlines the necessary steps to implement the LPAs. Each item within the suite of LPAs has a number of additional steps. A schedule and approximate cost for each are also identified.

LPA 1A: Curbside Management and Wayfinding Plan

- Prepare scope of work to develop detailed curbside management and wayfinding plans, suitable for Town or publically-bid contractor installation. The scope of work should include continued public process to inform the local officials and the public of progress.
- Submit scope of work to MassDOT and FHWA for approval.
- Develop detailed curbside management and wayfinding plan showing sign design, sign installation locations, and proposed pavement markings.
- Work with Milton Police Department to improve enforcement of parking regulations.

LPA 1B: Hybrid Plan

- Prepare detailed scope of work for preparation of construction documents for the hybrid alternative.
- Engage consultant to prepare construction documents for hybrid alternative. Consider amendment to current consultant's contract, if local procurement regulations allow.

LPA 2: Zoning Changes

- Develop language to amend zoning bylaws, and begin Town/public process to approve zoning amendments.

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