## 7.3 Areas Requiring Further Consideration

Inevitably some areas could not be resolved through this process, either because the issues are too broad to be resolved within the ambit of a traffic calming study such as this (for example Tillary and Adams Streets) or because decisions about specific traffic calming tactics logically needed to be deferred until other matters that govern areawide traffic management strategies were resolved (such as the area around the Brooklyn Bridge Park). However, useful discussion took place and ideas for treating these areas are discussed here and in *Section 7.*6. Areas deferred to a different forum include:

### 7.3.1 Flatbush Avenue/Atlantic Avenue/4th Avenue

This large and complex intersection represents the greatest point of traffic congestion in the study area. This stems from the confluence of major traffic flows on Flatbush Avenue, Atlantic Avenue and 4th Avenue throughout the day, but especially during commuter peak periods. The effects of this congestion are felt for substantial distances along each of the roads that approach this intersection and on surrounding streets as a result of intrusion by vehicles seeking to avoid the congestion. A solution to this problem would provide opportunities to improve street operations over a wide area.

The consultants and NYCDOT staff spent considerable effort seeking a low-cost traffic management solution to this congestion. A range of schemes based on better managing the traffic passing through the intersection was investigated but no effective solution of this type could be found. It was reluctantly concluded that the solution to the traffic problems at this intersection relies on more substantial measures than can be contemplated as part of a traffic calming program such as this. A summary of the options considered for this intersection and surrounding areas is provided in *Section 7.6*.

A solution to the traffic problems at this intersection could well be found if the range of potential solutions is widened to include more substantial road construction than was considered for this traffic calming study; however, any reconfiguring of this intersection should address the needs of cyclists and pedestrians, especially those who seek to cross Flatbush Avenue in this vicinity, as well as the needs of motorized traffic.

### 7.3.2 Flatbush Avenue/Schermerhorn Street

Congestion at this intersection constrains NYCDOT's ability to better manage traffic in the Atlantic Avenue/Schermerhorn Street corridor – if additional capacity could be found for eastbound traffic approaching the intersection on Schermerhorn Street then more aggressive measures could be adopted to address traffic problems on Atlantic Avenue and on parallel residential streets such as Dean Street. The consultants and NYCDOT expended substantial effort in seeking a low-cost traffic management solution to this problem. However, potential solutions exhibited problems at adjacent intersections. A summary of the options considered for this intersection and surrounding areas is provided in *Section 7.6*.

As above, any reconfiguring of this intersection should address the needs of cyclists and pedestrians, especially those who seek to cross Flatbush Avenue in this vicinity, as well as the needs of motorized traffic.

### 7.3.3 Tillary Street/Adams Street

This is a critical intersection in the road network in the north of Downtown Brooklyn and is currently the gateway into Brooklyn's urban fabric for traffic arriving on the Brooklyn Bridge.

The traffic congestion problems at this intersection have been the subject of debate and analysis for a number of years. Some low-cost ideas for improving the operations of this intersection were advanced but agreement among all stakeholders could not be reached.

There is general agreement that the Tillary Street/Adams Street intersection and the northern Adams Street approach needs to be reconfigured not only to improve traffic operations but to declare to arriving drivers that they have arrived in Brooklyn's urban area. However, agreement on a physical and management solution that achieves this aim could not be found.

In addition, security concerns in the wake of the World Trade Center disaster have impinged on the operations of the roadway in front of the new Federal Court House soon to be completed on the intersection's northwest corner. Development of a rational management plan that meets security needs while accommodating the area's traffic demands must be a high priority.

It is important, however, that the momentum of discussion that has been created as part of this study be maintained.

### 7.3.4 Fulton Ferry/Two-way Furman Street

Two important elements of the strategy are reconversion of Furman Street to two-way operation (in place of the current one-way southbound operation) and reconfiguration of the Fulton Ferry area to create a space more in keeping with its important historic and community role.

The Brooklyn Bridge Park planned for the waterfront between Atlantic Avenue and the Brooklyn Bridge is an important regional resource. A master plan has been developed for the park and implementation is soon to begin. The role of Furman Street in this master plan was seen by the community (as embodied by the Community Board 2 Task Force and Community Board 6 Transportation Committee) as crucial and they felt unable either to endorse or oppose any plan to change its operational status in advance of detailed access planning for the Brooklyn Bridge Park, due to commence soon. In light of the future development plans for this area, the community was unable to take a position on the ideas advanced within this study for the Fulton Ferry area.

Traffic access should be at the forefront of any consideration for development of the Brooklyn Bridge Park. NYCDOT should play a leading advisory role in the traffic access study for that park, to ensure that the wider road network issues be taken into account in that study.

## 7.4 Cost Estimates

This section describes the assumptions used in developing unit costs for traffic calming devices. The costs themselves were developed from the consultant's experience in implementing the Downtown Brooklyn Traffic Calming pilot program and from engineer's estimates of material costs for typical traffic calming treatments. A summary of the estimated construction cost, including materials and labor, of each corridor is given in *Section 7.4.9.* It was assumed that intersections would be partially closed during construction.

### 7.4.1 Neckdown

The unit cost for a neckdown assumes that on two corners, sidewalks are extended 7 feet in each direction. The cost allows for the reconstruction of the concrete corner sidewalk and the removal and reinstallation of steel-face curb with six inches of reveal (unless a raised intersection or crosswalk is proposed). Since neckdowns are typically planned at several intersections in a

corridor, the engineer's estimate cost is increased by a factor of 1.5 to allow for the fact that catch basins must be relocated whenever neckdowns are built at corners to which drainage flows.

#### 7.4.1.1 Unit Cost

$27,000 for neckdowns on two corners; $54,000 to neck down all four coners.

### 7.4.2 Bus Bulb

The unit cost for a bus bulb assumes a sidewalk extension 7 feet wide and 55 feet long (the length of a single-unit NYCTA coach). As with neckdown costs, bus bulb costs include the cost to reconstruct the sidewalk, relocate the steel-faced curb, and relocate catch basins at sites where drainage is toward the bus bulb.

#### 7.4.2.1 Unit Cost

$45,000 per bus bulb

### 7.4.3 Raised Intersection

The unit cost for a raised intersection assumes that the intersection is raised 4" above the existing roadway crown, and that the raised portion of the intersection is built in concrete, not asphalt. The raised section of the intersection is assumed to reach all four corners of the intersection.

#### 7.4.3.1 Unit Cost

$35,000 per raised intersection

### 7.4.4 Full Gateway

The unit cost for a gateway is a combination of the cost of necking down two corners and the cost of building an asphalt (not concrete) raised crosswalk with color-textured markings. As with neckdown costs, gateway costs include the cost to reconstruct the sidewalk, relocate the steel-faced curb, and relocate catch basins at sites where drainage is toward the gateway.

#### 7.4.4.1 Unit Cost

$30,000 per gateway

### 7.4.5 Chicane or Mid-block Crossing

The unit cost for a chicane or a mid-block crossing is the same as the unit cost for necking down two corners of an intersection. As with neckdown costs, chicane and mid-block crossing costs include the cost to reconstruct the sidewalk, relocate the steel-faced curb, and relocate catch

basins at sites where drainage is toward the chicane or mid-block crossing. Additionally, as with all signal timing changes, NYCDOT should confirm that a signal is warranted where a signalized mid-block crossing is proposed.

#### 7.4.5.1 Unit Cost

$27,000 per chicane or mid-block crossing

### 7.4.6 High-visibility bike lane

The unit cost for a high-visibility bike lane is a per-block cost, assuming a 5 foot-wide lane and a 200 foot-long block. The unit cost includes the costs of powersweeping and the lane, installing ColorSet or a comparable color-texturing product, and laying all lane striping and symbols.

#### 7.4.6.1 Unit Cost

$7,500 per block (based on a 200-foot long block).

### 7.4.7 High-visibility crosswalk

The unit cost for a high-visibility sidewalk is given for a single leg of an intersection, assuming a 10 foot wide crosswalk. The unit cost includes the costs of power sweeping and the lane, installing ColorSet or a comparable color-texturing product, and restoring all striping.

#### 7.4.7.1 Unit Cost

$1,500 per leg of intersection

### 7.4.8 Median

The unit cost for a median treatment is a per-block cost, assuming a 4 foot-wide median and a 200 foot-long block at a construction cost of $50/square foot. The unit cost assumes a basic raised concrete median with steel-faced curb at intersections and concrete-faced curb mid-block. It does not include the cost of landscaping or otherwise beautifying the median.

#### 7.4.8.1 Unit Cost

$40,000 per block

### 7.4.9 Implementation costs by street

*Table 7.4* summarizes the estimated cost of implementing the Downtown Brooklyn Traffic Calming Strategy for each street in the study area. These estimates are compiled based on the unit costs described in *Sections 7.4.1* through *7.4.8*. The table shows three cost estimates – a low end,

midpoint, and high end cost. The midpoint cost is a direct sum of the unit costs described above multiplied by the quantities specified in the strategy. The unit costs are, as noted, based on actual field experience, and include allowances for such contingencies as catch basin relocation. The low end and high end costs show 25% decreases and increases, respectively, from the midpoint cost. A low end cost can be used where existing curbs are not steel-faced and no catch basin relocations are required. A high end cost can be used where, in addition to steel-faced curb replacement and catch basin relocation, relocation of some utilities and manholes are also required. All cost estimates are rounded to the nearest $1,000.

**Table 7.4 Estimated implementation cost of Downtown Brooklyn Traffic Calming Strategy, by street**

| Street | Cost Estimate | | |
|---|---|---|---|
| | Low end | Midpoint | High end |
| 3rd Avenue | $ 505,000 | $ 674,000 | $ 842,000 |
| 4th Avenue | $1,147,000 | $1,529,000 | $ 1,911,000 |
| Adams Street | $ 15,000 | $ 20,000 | $ 25,000 |
| Atlantic Avenue | $ 272,000 | $ 362,000 | $ 453,000 |
| Court St/Cadman Plaza | $ 62,000 | $ 83,000 | $ 104,000 |
| Flatbush Avenue | $ 360,000 | $ 480,000 | $ 600,000 |
| Furman Street | $ 60,000 | $ 80,000 | $ 100,000 |
| Hamilton Avenue | $ 121,000 | $ 161,000 | $ 201,000 |
| Old Fulton Street | $ 231,000 | $ 308,000 | $ 385,000 |
| Tillary Street | $ 191,000 | $ 255,000 | $ 319,000 |
| Court Street | $ 900,000 | $1,200,000 | $ 1,500,000 |
| DeKalb Avenue | $ 339,000 | $ 452,000 | $ 564,000 |
| Fulton Street | $ 273,000 | $ 364,000 | $ 455,000 |
| Jay Street | $ 48,000 | $ 65,000 | $ 81,000 |
| Lafayette Avenue | $ 296,000 | $ 395,000 | $ 494,000 |
| Livingston Street | $ 2,000 | $ 3,000 | $ 4,000 |
| Montague Street | $ 89,000 | $ 119,000 | $ 148,000 |
| Myrtle Avenue | $ 224,000 | $ 299,000 | $ 373,000 |
| Schermerhorn Street | $ 110,000 | $ 147,000 | $ 184,000 |
| Smith Street | $ 371,000 | $ 495,000 | $ 619,000 |
| Willoughby Street | $ 91,000 | $ 121,000 | $ 151,000 |
| 3rd Street | $ 106,000 | $ 141,000 | $ 176,000 |
| Ashland Place | $ 52,000 | $ 69,000 | $ 86,000 |
| Pacific/Dean/Bergen Streets | $ 149,000 | $ 199,000 | $ 249,000 |
| Boerum Place | $ 32,000 | $ 42,000 | $ 53,000 |
| Clinton Street | $ 198,000 | $ 264,000 | $ 330,000 |
| Henry Street | $ 197,000 | $ 263,000 | $ 328,000 |
| Hicks Street | $ 320,000 | $ 427,000 | $ 534,000 |
| Joralemon Street | $ 20,000 | $ 27,000 | $ 34,000 |
| Union Street | $ 74,000 | $ 99,000 | $ 124,000 |
| Other Fort Greene Streets | $ 172,000 | $ 230,000 | $ 287,000 |
| Other Southeast Streets | $ 20,000 | $ 27,000 | $ 34,000 |
| **Total Cost, All Streets** | **$7,047,000** | **$9,397,000** | **$11,746,000** |

## 7.5 Staging Implementation of the Action Plan

A staging strategy for implementing the Downtown Brooklyn Traffic Calming strategy has been developed. The staging strategy balances several considerations:

- costs must be spread evenly over several years of construction,
- strategies must be implemented to prevent sudden increases or decreases in capacity that might induce additional driving in Downtown Brooklyn, and
- visible progress must be made in order to build and maintain momentum (see *Section 8.3*).

The staging program outlined in the Final Report spreads out the strategy's $10 million cost over four distinct phases, each roughly equal in cost. Estimated costs include all individual physical works associated with the treatments and any necessary utilities relocation. The actions in each phase are coordinated so that traffic impacts result in a logical fashion consistent with the Street Management Framework, and so that visible locations are treated early in the process to maintain visibility and enthusiasm. The order of the phases is not meant to imply a hierarchy of importance among the corridors or an indication of priorities. Instead, it is intended to group corridors on a systematic basis for implementation. Implementation phasing should be based on community priorities and coordination with the City's Capital Plan. In fact, the phases are interchangeable in two senses – each phase bundles a coordinated set of actions that can stand alone from a traffic operations point of view, and the costs are roughly equal among phases. A summary of costs, by phase, is given in *Section 7.5.5.* Note that this plan constitutes the consultant's recommendation, and is subject to change if community or NYCDOT priorities change.

### 7.5.1 Phase 1

Phase 1 focuses on two of the corridors that generated the most discussion during the Downtown Brooklyn Traffic Calming process – Atlantic Avenue (east-west) and Brooklyn Heights (north-south). The approximate total cost of Phase 1 is expected to range between $1.9 million and $3.2 million.

#### 7.5.1.1 Atlantic Avenue east-west corridor

This phase begins by improving pedestrian conditions and rationalizing traffic flow and queuing patterns along Atlantic Avenue. The introduction of operational measures like LPIs and 24-hour parking (currently, only off-peak parking exists), and physical measures like neckdowns on intersecting Living Streets will improve pedestrian conditions on Atlantic Avenue. Meanwhile, as traffic operation improvements allow Atlantic to carry and store peak hour traffic more efficiently, traffic pressure on parallel Living and Community Streets like Pacific Street, Dean Street, Bergen Street, Livingston Street, and Schermerhorn Street will decrease. This will create an opportunity to introduce new physical treatments that slow travel speeds and discourage through traffic on the Living and Community Streets.

Improvements in the Atlantic Avenue corridor include the traffic calming strategies for:

- Atlantic Avenue
- Pacific/Dean/Bergen Streets
- Schermerhorn Street
- Livingston Street

#### 7.5.1.2 Brooklyn Heights north-south corridor

Building on the improved east-west operations on Atlantic Avenue, a Travel Street, Phase 1 continues to reduce through traffic impacts and improve conditions for non-motorized street users on the Living streets that run north-south across Atlantic Avenue west of Court Street. Many of these improvements would begin as far south as Hamilton Avenue, improving conditions on both sides of Atlantic Avenue, but the primary operational focus will be to slow traffic and discourage through travel north of Atlantic Avenue.

Improvements in the Brooklyn Heights corridor include the traffic calming strategies for:

- Hicks Street

- Henry Street
- Clinton Street
- Hamilton Avenue
- Court Street/Cadman Plaza West
- Old Fulton Street
- Furman Street
- Joralemon Street
- Montague Street
- Jay Street
- Adams Street

### 7.5.2 Phase 2

Phase 2 complements the work completed in Phase 1 by extending traffic calming improvements to the north-south Court/Smith Streets corridor through Cobble Hill. The approximate total cost of Phase 2 is expected to range between $1.5 million and $2.5 million.

#### 7.5.2.1 Cobble Hill north-south corridor

Phase 2 aims to rationalize traffic and transit operations and to improve conditions for pedestrians, cyclists, bus riders, and motorists along Smith and Court Streets and the intersecting Living Streets in Cobble Hill. When combined with the actions undertaken in Phase 1, this phase will prevent traffic discouraged from using the north-south streets west of Court Street (Hicks, Henry, and Clinton Streets) from simply diverting to Court and Smith Streets.

Improvements in the Cobble Hill corridor include the traffic calming strategies for:

- Court Street
- Smith Street
- Columbia/Van Brunt Streets
- Union Street
- 3rd Street
- Baltic/Wyckoff Streets

### 7.5.3 Phase 3

Phase 3 focuses on improving street management within and east of the Downtown Brooklyn Central Business District (CBD). The centerpieces of this phase are traffic management measures to improve the operations of Flatbush Avenue and physical measures that will reinforce the neighborhood character of Fort Greene's Living and Community Streets. The approximate total cost of Phase 3 is expected to range between $2 million and $3.3 million.

#### 7.5.3.1 Fort Greene east-west corridor

Phase 3 will improve pedestrian conditions and bus operating conditions on the east-west avenues through Fort Greene. This phase will also slow traffic traveling crosstown on the north-south living streets, reducing the volume and impact of through traffic on residential areas.

Improvements in the Fort Greene corridor include the traffic calming strategies for:

- Myrtle Avenue
- DeKalb Avenue
- Lafayette Avenue
- Fulton Street
- Ashland Place
- Other Fort Greene Streets

#### 7.5.3.2 Flatbush Avenue and the Central Business District

Phase 3 will introduce operational improvements and physical measures along Flatbush Avenue and Tillary Street to make traffic flow and queue more efficiently, reducing the drivers' temptation to use adjacent Living and Community Streets to access Manhattan and the CBD. The strategies for Flatbush Avenue specifically address it role as a safe, efficient vehicular gateway to MetroTech and the entire Brooklyn CBD, while still reaping substantial benefits for pedestrians to travel along and across the avenue.

Improvements in the Central Business District (CBD) include the traffic calming strategies for:

- Flatbush Avenue
- Willoughby Street
- Tillary Street

### 7.5.4 Phase 4

Phase 4 addresses the traffic management and safety issues in the north-south corridor formed by two Travel streets, 3rd and 4th Avenues. The approximate total cost of Phase 4 is expected to range between $1.7 million and $2.8 million.

#### 7.5.4.1 3rd/4th Avenue corridor

Phase 4 will allow 3rd and 4th Avenues to continue their role as Travel streets, distributing regional trips into the study area. This phase also introduces physical measures that will improve pedestrian safety and crossing conditions along the avenues.

Improvements in the 3rd/4th Avenue corridor include the traffic calming strategies for:

- 3rd Ave
- 4th Ave

### 7.5.5 Costs by phase

*Table 7.5* summarizes an estimated cost range for each implementation phase of the Downtown Brooklyn Traffic Calming strategy. Unit costs and assumptions are described in *Section 7.4.*

**Table 7.5 Summary of cost estimates, by implementation phase**

| Phase | Corridor locations | Cost estimate (millions) | | |
|---|---|---|---|---|
| | | Low end | Midpoint | High end |
| 1 | Atlantic Avenue, Brooklyn Heights | $ 1.9 | $ 2.5 | $ 3.2 |
| 2 | Cobble Hill | $ 1.5 | $ 2.0 | $ 2.5 |
| 3 | Fort Greene, CBD | $ 2.0 | $ 2.7 | $ 3.3 |
| 4 | 3rd and 4th Aves | $ 1.7 | $ 2.2 | $ 2.8 |
| **Total** | | **$ 7.0** | **$ 9.4** | **$ 11.7** |

*Note: Columns may not sum due to rounding*

## 7.6 Ideas Considered But Not Advanced

A great deal of investigation and analysis effort was expended on ideas that ultimately did not find their way into the final strategy. This effort was not without value, of course, and is reported here in order that the value is not lost. All of the measures presented in this section were considered seriously and only dismissed if the community expressed its dislike, or if analysis showed that the measure's impacts on safety and traffic movement were too great.

### 7.6.1 Flatbush Avenue/Atlantic Avenue/4th Avenue

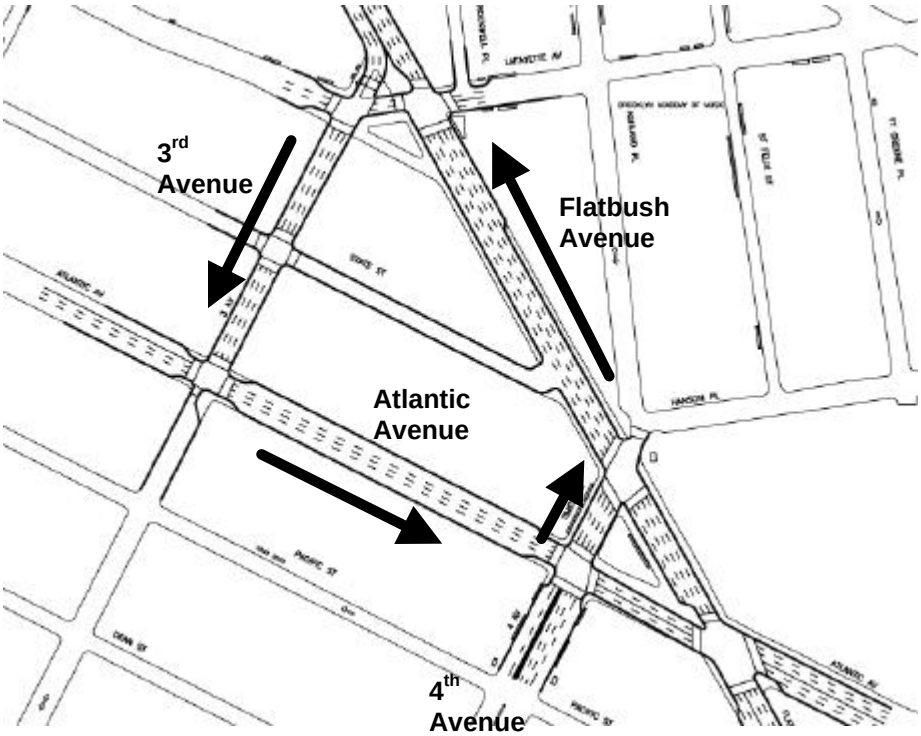
*Section 7.3* contains a discussion of how this location was identified as one that required further attention beyond the duration of this study. That this is the case reflects the consultant's inability to find a traffic calming solution to its problems. This conclusion was reached reluctantly and only after a substantial amount of analytical effort. It is likely that the intersection can be made to operate more effectively, but only through more substantial construction activity than fits comfortably under the heading of traffic calming.

The intersection of Flatbush Avenue, Atlantic Avenue and 4th Avenue routinely experiences substantial congestion, which extends west to include the intersection of 3rd Avenue and Atlantic Avenue. These intersections, together with the congested intersection of Schermerhorn Street and Flatbush Avenue provide a major traffic bottleneck whose effect is felt over a wide area.

Clearly, the traffic congestion at this location could be addressed through substantial road construction. However, the focus of this traffic calming investigation was on managing traffic better and innovatively.

The focus was on implementation of a gyratory, a traffic control technique used with great success elsewhere in the world. This involved creating a traffic loop running one-way counter clockwise southbound on 3rd Avenue from Flatbush Avenue to Atlantic Avenue, eastbound on Atlantic Avenue to 4th Avenue, northbound on 4th Avenue to Flatbush Avenue and northwest on Flatbush Avenue to 3rd Avenue. The scheme is illustrated in *Figure 7.11*.

**Figure 7.11 Gyratory proposal for Atlantic, Flatbush, Third, and Fourth Avenues. Though it would reduce conflicts and improve traffic flow, this plan is impossible, without taking land for additional road space.**




This proposal built on the idea that an effective means of reducing congestion at individual locations is to reduce the number of conflicting traffic movements. At present, each of these intersections is configured to allow almost all movements. This provides desirable flexibility for drivers to travel exactly where they want through the congested area, but with the substantial impacts of traffic congestion and an unpleasant street environment. The Gyratory option was built on the idea that it might be possible to sacrifice some of the movement flexibility, in return for a congestion reduction, as well as an improvement in street conditions and reduction in road width. Since it had the potential to benefit all street users, the Gyratory option was investigated seriously here.

In this option, traffic northbound on 4th Avenue and westbound on Atlantic Avenue heading for Flatbush Avenue would not have to deviate from its current route, but would experience less congestion than currently in the morning peak because of the reduced conflicts at the intersections of Flatbush Avenue and Atlantic Avenue and Flatbush Avenue and 4th Avenue. Traffic currently heading for Atlantic Avenue west of the area from 4th Avenue and Atlantic Avenue east of the area could do so by traveling northwest on Flatbush Avenue and then south on 3rd Avenue, or (more desirably) could divert to Flatbush Avenue northwest. Traffic heading north on 3rd Avenue would need to travel counter clockwise around the gyratory in order to reach either Flatbush Avenue northwest or Atlantic Avenue west; while circuitous, the movement from 3rd Avenue south to Atlantic Avenue west is currently banned, therefore this scheme provides greater connectivity between what are designated as two truck routes than currently exists.

Traffic traveling away from Brooklyn's downtown likewise would experience a mix of greater convenience and slight deviation. All traffic traveling southeast on Flatbush Avenue would deviate south on 3rd Avenue to Atlantic Avenue, generally east on Atlantic Avenue and from there

either to Atlantic Avenue east, Flatbush Avenue southeast or 4th Avenue south. Traffic traveling east on Atlantic Avenue could reach Atlantic Avenue east, Flatbush Avenue southeast, 3rd Avenue south and 4th Avenue south without deviation and with fewer conflicting traffic movements than at present.

The northbound and westbound traffic streams described above generally benefit strongly from this scheme, particularly in the morning peak commuter period. By virtue of the slightly circuitous route required to reach Atlantic Avenue west, this major shopping street may be somewhat protected from westbound through traffic.

The proposal's major flaw occurs in the evening commuter peak period at the Atlantic Avenue/3rd Avenue intersection, where there is simply not enough current road space to accommodate evening commuter peak traffic. To store evening peak volumes, land acquisition for road widening would be required. Given the focus on improvements to the area's traffic that do not rely on major property acquisition, this innovation had to be abandoned. Notwithstanding this, it is felt that the scheme has some merit and offers a possible means of dealing with the chronic traffic congestion in this area at the same time as offering means to reduce road widths and create the potential for pedestrian presence in what is currently an unpleasant pedestrian area. Apart from the road space problems at the Atlantic Avenue/3rd Avenue intersection, substantial opportunities presented themselves to reclaim road space, simplify traffic movements and improve the street environment. Current (2000) and Gyratory conditions are described in *Table 7.6*.

**Table 7.6 Comparison of current traffic conditions at Flatbush-Atlantic-Fourth Avenue intersection with conditions under the proposed gyratory**

| *Approach* | *Existing (2000)* | | | | *With Gyratory* | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | *LOS* | *Int. Delay* | *LOS* | *Int. Delay* | *LOS* | *Int. Delay* | *LOS* | *Int. Delay* |
| Flatbush Ave – Fourth Ave | C | 26.3 sec | C | 20.0 sec | C | 29.8 sec | C | 26.3 sec |
| Flatbush Ave – Atlantic Ave | C | 23.4 sec | C | 29.2 sec | C | 23.4 sec | C | 28.9 sec |
| Atlantic Ave – Fourth Ave | D | 49.7 sec | D | 43.4 sec | E | 60.8 sec | D | 50.7 sec |

*Source: Traffic volumes from 330 Jay Street EIS*

In the long term, it is recommended that this option be explored further as part of the ongoing studies of this area recommended in *Section 7.3*.

### 7.6.2 Flatbush Avenue/Schermerhorn Street/3rd Avenue realignment

Besides experiencing chronic congestion, the intersection of Schermerhorn Street with Flatbush and 3rd Avenues is unwelcoming for pedestrians. An attempt was made to reorganize the street space, and improve throughput, by banning left turns from 3rd Avenue to Schermerhorn Street, changing signal timings, and expanding the traffic island by closing the slip ramp between Schermerhorn Street and Flatbush Avenue. However, while some of these measures would improve pedestrian crossing conditions, no amount of realignment can increase the capacity of

this intersection, short of actually acquiring more property for road space. Since acquiring property is beyond the scope of traffic calming, and since the junction of two Travel Streets needs to be managed with traffic throughput in mind, this option was not pursued. Such a plan may be possible in the context of the EDC/Department of City Planning's Downtown Brooklyn Redevelopment Plan.

### 7.6.3 State Street reversal

Residents of State Street between Court and Hoyt Streets are concerned that redevelopment of the Municipal Parking Garage site will increase traffic on their blocks. They voiced that State Street, which is one-way eastbound, suffers from as much traffic intrusion in the evening peak as streets that parallel Atlantic Avenue to the south (Pacific, Dean, and Bergen Streets). They suggested reversing the direction of State Street for one block to prevent this intrusion.

Such a reversal is not recommended for two reasons:

- Such a reversal would reduce the permeability of the Boerum Hill grid, frustrating drivers unfamiliar with the area, and
- The scheme would place additional traffic onto already congested intersections like Smith Street and Atlantic Avenue, Hoyt Street and Atlantic Avenue, and 3rd Avenue and Schermerhorn Street. Additional traffic would be forced to take circuitous routes on State Street and adjacent streets, including Atlantic Avenue, Hoyt Street, Bond Street, Court Street, Smith Street and 3rd Avenue.

Notwithstanding these concerns, some attention should be given to mitigating the traffic impacts of the garage site redevelopment during that project's planning process.

### 7.6.4 Two-way Court Street

Converting Court Street to two-way operation was suggested as a way of making the street less useful for commuters and more useful for local circulation and non-drivers. However, Court Street is not a Living Street, and the presence of traffic is not regarded as something to be avoided at all costs. Indeed, as noted elsewhere, many successful shopping streets in New York carry high traffic volumes. Since making Court Street two-way would reduce southbound capacity in the study area, it would lead to further intrusion into Living Streets like Henry, Nevins and Hoyt Streets. Moreover, a two-way scheme would do nothing to improve the operations of buses on Court Street – an issue that is addressed by the suggested bus bulbs.