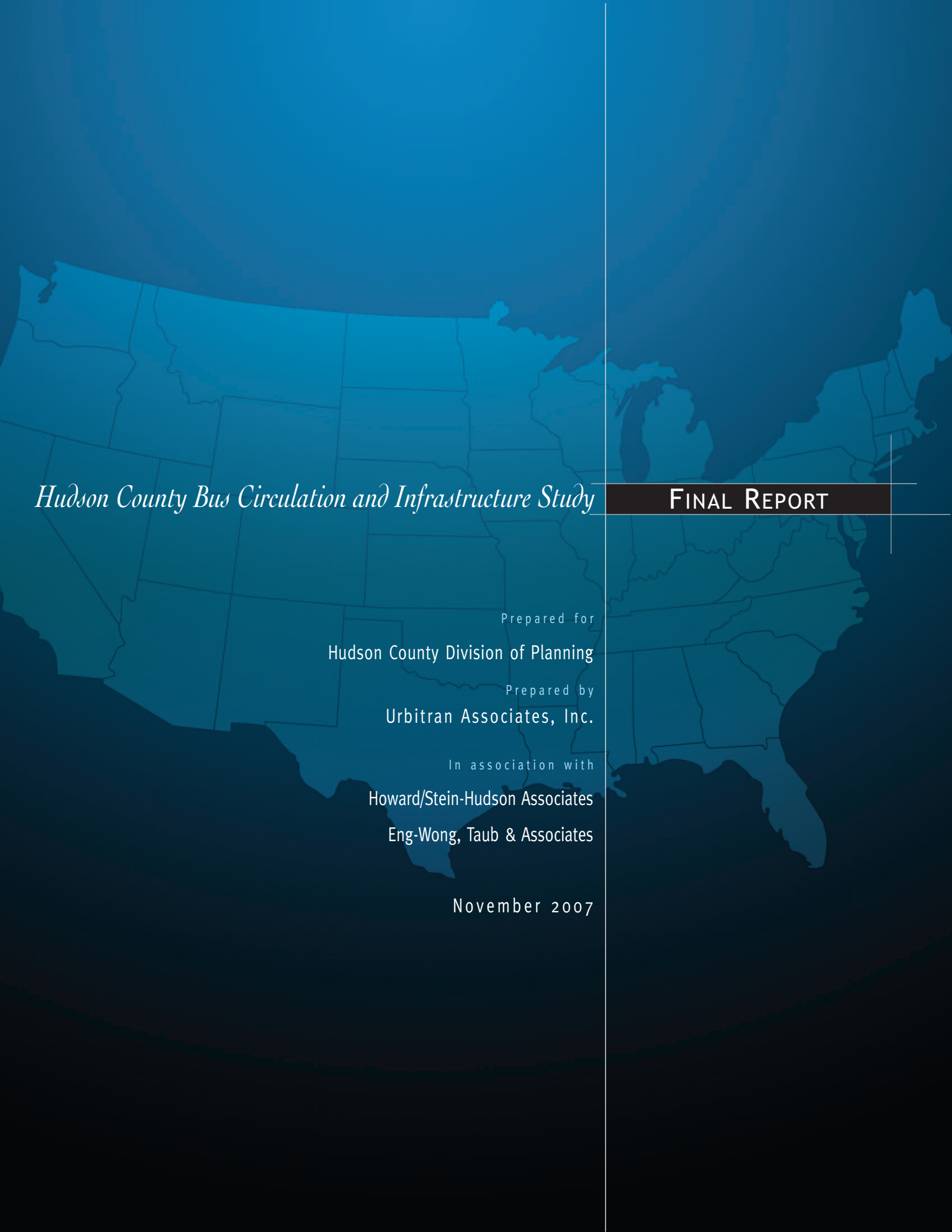

Hudson County Bus Circulation and Infrastructure Study

FINAL REPORT

Prepared for

Hudson County Division of Planning

Prepared by

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In association with

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EXECUTIVE SUMMARY

The Hudson County Bus Circulation & Infrastructure Study was prepared for the Hudson County Division of Planning and the North Jersey Transportation Planning Authority (NJTPA) by a study team comprised of Urbitran Associates, Inc., Eng-Wong, Taub & Associates, and Howard/Stein-Hudson Associates. The study focused on the following project goals:

- Engage the public and stakeholders to identify issues
- Recommend improvements to existing physical infrastructure to improve the efficiency, safety, and traffic flow for public transit and general traffic in Hudson County
- Better understand jitney operations in the county to address safety and operational concerns
- Identify opportunities to link Hudson County Plaza development to the existing transit network to maximize accessibility of the new county facility.

Summary of Public Outreach

Public outreach was a critical component of the study, including input from local and municipal stakeholders, a public project kick-off open house, and "drop-in" sessions held at key transit locations to solicit user feedback. A Technical Advisory Committee (TAC) also met throughout the project to provide guidance and feedback on study efforts.

Stakeholder Interviews

Throughout the interview process in the early study phases, several key issues and themes emerged from discussions with regional stakeholders:

- In densely developed municipalities (particularly the north/south "spine" of Hudson County), bus traffic is delayed and impacted by severe traffic congestion throughout key corridors.
- Bus stops in many municipalities are placed too close together, or transit operators make stops too frequently even when marked bus stops are adequately spaced.
- Buses often are unable to pull into bus stops completely, blocking traffic behind and creating potential safety hazards for passengers.
- Jitney van services serve a growing ridership market but a lack of regulation and enforcement leads to numerous safety and operational concerns.
- Congestion is a given throughout much of Hudson County, but small physical/operational changes can make appreciable improvements in transit and traffic flow.

Public Drop-In Sessions

A series of six public drop-in sessions were conducted at major transit locations in Hudson County to solicit feedback from bus riders and transit users. Members of the public were encouraged to provide any feedback regarding traffic, transit and safety concerns in the county. The study team interviewed customers in both English and Spanish. A number of consistent themes emerged during the sessions.

- Transit corridors such as Bergenline Avenue in Union City and Newark Avenue in Jersey City are frequently congested due to narrow roadways, double-parked cars or delivery trucks, and traffic conflicts with jitneys and other vehicles.
- Intersections that prove troublesome for transit operations are frequently a concern for pedestrians as well.
- Customers interviewed expressed concerns about the safety of jitney vehicles and operators.
- Passengers choose to ride jitneys because they are more frequent and less expensive, even if fixed route bus carriers are preferable from customer service and safety perspectives.
- Some difficulties could be improved through operational changes, e.g., buses pulling entirely into bus stops when possible to give passengers better access to curb and reduce traffic congestion due to vehicles blocked behind the bus.
- Some corridors have too many bus stops, negatively affecting travel times.

Transit and Infrastructure Improvements

The Hudson County Bus Circulation and Infrastructure study began with a review of existing transit services in the county, focusing on primary bus corridors and key transportation hubs. A description of the type of transit service (bus, rail, ferry) in the county was developed, followed by characteristics of the corridors and hubs. Based upon an understanding of transit services that exist in the county today, a screening methodology was then developed to narrow the list of potential locations and improvement actions. The development of infrastructure recommendations was based on the following process:

- Initial data collection and inventory of transit services
- Identification of primary transit corridors and hubs
- Selection of primary corridors and locations
- Detailed data collection and analysis
- Development of recommendations
- Ranking of locations and improvement actions

Transit Corridors

In addition to heavy bus activity around intermodal hubs, a number of principal corridors in the county carry significant bus traffic and warrant consideration for physical improvements as part of this Bus Circulation and Infrastructure Study. Each of the corridors listed below represents a major arterial or primary transit corridor:

1. I-495, 30th and 31st Streets (Union City, Weehawken)
2. Bergenline Avenue (North Bergen, West New York, Guttenberg, Union City)
3. Boulevard East (North Bergen, West New York Guttenberg, Weehawken)
4. River Road (North Bergen, West New York, Guttenberg, Weehawken)
5. Washington Street (Hoboken)
6. Summit Avenue (Union City, Jersey City)
7. Martin Luther King Drive (Jersey City)
8. West Side Avenue (Jersey City)
9. Avenue C (Bayonne)
10. Broadway (Bayonne)
11. JFK Boulevard North (North Bergen, West New York, Guttenberg, Union City)

12. JFK Boulevard South (Union City, Jersey City, Bayonne)
13. Montgomery Street (Jersey City)
14. Communipaw Avenue (Jersey City)
15. Tonnelle Avenue (North Bergen, Union City, Jersey City)
16. Newark Avenue (Jersey City)
17. Meadowlands Parkway (Secaucus)
18. Harrison Avenue (Harrison)
19. Kearny Avenue (Kearny)

Corridor Service Comparison – Phase 1 Screening Methodology

As a general rule, corridors with the highest total transit volumes warrant greater consideration, however various operating and policy decisions were also taken into account. In the Phase 1 Screening process, corridors were identified based on the existence of notable transit service levels (number of bus trips, ridership, etc.) throughout Hudson County. These corridors are situated within the county but may host bus routes that extend beyond Hudson County borders. In addition to the primary transit corridors identified in Hudson County, similar combined ridership figures and service levels are included for five key transportation hubs: Journal Square, Exchange Place, 31st Street/Bergenline Avenue, Hoboken Terminal, and Port Imperial.

Corridor Service Comparison – Phase 2 Screening Methodology

In the subsequent steps, the study team evaluated each corridor listed above based on the potential benefit and implementability measures. These measures formed the basis for a series of evaluation criteria, along with a number of qualitative decisions based on characteristics of the corridor. Evaluation of the corridors sought to identify those that did not meet minimum thresholds such as peak buses per hour, ridership, travel delay, etc.

Measures of Potential Benefit

As the long list of corridors advanced through Phase 2 Screening, the potential for beneficial improvement was evaluated through the following measures:

- Number of users benefiting
- Potential for travel time savings
- Potential for ridership growth
- Potential for improved reliability

Measures of Implementation Feasibility

As specific corridors and potential improvements were identified, measures of implementability came into play:

- Physical limitations
- Need for parking changes
- Traffic impacts
- Need for enforcement

Selection of Study Locations

Following the initial identification of the universe of transit corridors in the county, the study team, in conjunction with stakeholders and the Technical Advisory Committee, narrowed the list

of corridors and spot locations that merited further in-depth review. In several cases, site visits and discussion revealed that specific corridors were fundamentally sound but one or more spot locations were identified. Thus, the selection of priorities for field work and primary data collection ultimately focused more on these specific locations than entire corridors. The corridors and locations selected for Phase 2 review include the following:

Study Locations and Corridors

Areas of Study	Analysis Locations		Jitney Count Locations
	Location	Corridor	
West New York/Guttenberg	Boulevard East & Ferry Rd.	Bergenline Ave.	Bergenline Ave.
	Boulevard East & 60th St.		
Union City	Bergenline Ave. at 48th thru 50th St.	Bergenline Ave.	JF Kennedy Blvd. 30th St. & 31st St.
	31st St. On Ramp to Westbound Rt. 495		
	Bergenline Ave. & 32nd St.		
Jersey City	West Side Ave. & Duncan Ave.		Newark Ave.
	West Side Ave. & Communipaw Ave.		
	Newark Ave. & Palisade Ave.		
	Montgomery St. & Center St./Merseles St.		
	Mall Drive West		
	Montgomery St. & Marin Blvd.		
	Journal Square Jitney Route		
Bayonne		JF Kennedy Blvd.	
Kearny	Kearny Ave. & Midland Ave.		

Evaluation and Analysis of Jitney Services

The study team was charged with investigating both the operating and policy considerations of this segment of the transportation network in subsequent steps of this effort. Several corridors and transit hubs were identified through input from stakeholders, the TAC, and field work as hosting considerable jitney traffic, and thus will be considered for further study from both operational and policy perspectives.

Locations for further review included:

- Bergenline Avenue (West New York, Union City)
- 30th, 31st Street (Union City)
- Boulevard East (North Bergen, Guttenberg, West New York, Weehawken)
- JFK Boulevard South (Union City, Jersey City)
- Newark Avenue (Jersey City)
- Newport Mall (Jersey City)

Recommendations

Three examples of the recommendations developed illustrate the range of options available throughout the county, depending upon the local conditions and degree of improvement required.

Low-Cost, Easy to Implement

Throughout the county, many bus stops were identified as being inadequately sized, or were subject to repeated parking violations that impeded transit and traffic flow an/or compromised passenger safety. One example where a low-cost solution would ease traffic flow was the southbound bus stop on Boulevard East at 60th Street in West New York. Although this far-side stop is long enough to accommodate two buses simultaneously, bus operators frequently stop prematurely (i.e., close to the intersection) and thus block following buses from fully entering the stop at the same time.

By painting a designated boarding location at the front of this stop- which is - passengers will be encouraged to wait at a location suitable to allow a second bus to pull into the stop when the first is loading or discharging passengers. This improvement can be applied at other locations throughout the county.

Mid-Range Solutions

Bergenline Avenue is a heavily congested transit corridor for both fixed route operators (NJ Transit) and a number of independent jitney operators. Traffic congestion results from the fact that the roadway is typically wide enough for multiple traffic lanes, yet it is striped only for one lane northbound and one lane southbound. A painted median that channels the primary travel lane would allow for the introduction of left-turn lanes at key intersections as well as improved bus stop demarcation. This improvement applies throughout the corridor north of 47th Street in Union City.

Physical Infrastructure Improvements

More advanced physical infrastructure improvements include a realignment of Bergenline Avenue at 32nd Street in Union City. This one-way, southbound segment of Bergenline is a consistent bottleneck for transit and other traffic approaching the interchange with Route 495 and points south in Hudson County. By shifting curb lines and straightening the slight “S” bend in Bergenline Avenue, a bus lane could be established where limited parking exists now on the right side, while through traffic would have a separate, left lane.

Cost Assessment of Proposed Improvement Measures

Estimates for the cost of designing and implementing each of the specific proposed improvement measures in the study were calculated based on similar projects. The cost estimates were summarized in $5,000 increments ranging from solutions of little to no cost (striping, signage, enforcement, etc.) to about $100,000 for more complex physical improvements such as right-of-way and alignment modifications. The following table provides a summary of improvements and broad cost estimates.

Infrastructure Recommendations – Cost Estimate Table

Location	Improvement	Cost Range	City/Township
Boulevard East & Ferry Road	Modify bus stops to improve transit operations.	$5,000 - $10,000	Guttenberg
Boulevard East & 60th Street	Add signage to improve bus stop operation.	$0 - $5,000	West New York
Bergenline Avenue (North of 47th Street)	Install left-turn lanes and move bus stops to reduce traffic blockages.	$95,000 - $100,000	West New York
Bergenline Avenue (Between 48th Street and 50th Street)	Modify signal cycle lengths to improve traffic progression.	$0 - $5,000	West New York
Bergenline Avenue (Between 31st Street and 47th Street)	Provide a bus lane to reduce traffic blockages.	$10,000 - $15,000	Union City
Bergenline Avenue (Between 31st Street and 33rd Street)	Provide wider lanes to increase capacity.	$5,000 - $10,000	Union City
Bergenline Avenue at 32nd Street	Improve intersection alignment.	$10,000 - $15,000	Union City
31st Street on-ramp and westbound Route 495	Implement traffic diversion to improve ramp flow.	$35,000 - $40,000	Union City
West Side Avenue & Duncan Avenue	Prevent traffic blockages through enforcement.	$0 - $5000	Jersey City
West Side Avenue & Communipaw Avenue	Prevent traffic blockages through enforcement.	$0 - $5000	Jersey City
Newark Avenue & Palisade Avenue	Improve pedestrian crossing facilities. Modify signal timing.	$20,000 - $25,000	Jersey City
Montgomery Street & Center/Merseles Streets	Modify signal phasing to reduce delay.	$0 - $5,000	Jersey City
Mall Drive West (Newport Centre Mall)	Add enforcement to improve bus operations.	$0 - $5,000	Jersey City
Montgomery Street & Marin Boulevard	Modify signal offset to improve progression.	$0 - $5,000	Jersey City
JFK Boulevard	Modify signal plan to improve progression.	$5,000 - $10,000	Bayonne
Midland Avenue & Kearny Avenue	Re-stripe bus stop and remove parking to improve bus stop.	$0 - $5,000	Kearny
Washington Street	Install left-turn lanes and move bus stops to reduce traffic blockages.	$50,000 - $55,000	Hoboken

Review of Jitney Operations

The study team conducted an assessment of jitney bus operations serving the Hudson County area and their impact on passenger service, fixed route bus operations, passenger and vehicular safety, and traffic congestion, in addition to policy considerations and recommendations for the establishment of a full-time oversight body and ordinance to improve licensing, inspections, oversight and enforcement of operations.

In recent years, jitney services in Hudson County have grown from a niche market to a substantial component of the regional transit system. Jitney operators typically offer frequent,

inexpensive service on corridors long-established by the fixed route bus operators such as NJ Transit, becoming increasingly competitive both with fixed route operators and with each other. Moreover, jitney drivers compete with each other for passengers, as most operate in the manner of taxi drivers, whereby vehicles are leased by drivers for a fee and the driver keeps cash fares as his or her income.

The field observations conducted as part of this study show the breadth of service in operation in Hudson County. Case in point, no fewer than eight different jitney companies provide service along the Bergenline Avenue corridor, in addition to the service already provided by NJ Transit. Issues that emerged throughout the study pertaining to jitney operations in Hudson County:

- Over-supply of service
- Safety
- Accessibility
- Traffic and transit operations
- Accountability
- Operating authority
- Enforcement

Development of a Jitney Ordinance for Hudson County

The primary recommendation of this study was to work toward the establishment of a Hudson County jitney ordinance. This ordinance would create consistent definitions of jitney service, a unified approach to oversight and enforcement throughout the county, and authorize enforcement at both the local level and the county level, in part through a permanent, dedicated task force. Ultimately, the jitney issue in Hudson County presents a complex challenge in the need to balance two fundamental positions:

1. The value of jitney services which, as a rapidly growing market, represent an increasingly important component of the regional transit network and offer mobility options to Hudson County residents and commuters

2. Illegal or inadequately enforced service providers whose competitive practices contribute to congestion, traffic conflicts, and safety concerns among passengers and other roadway users.

Jitney service and policy regulation should include the following components:

Jitney Regulation – Near Term

- County-wide regulatory body (e.g., Hudson TMA)
    - Local municipalities empower Hudson County to regulate
    - Increased enforcement at both county and local level through dedicated task force (Hudson County Sheriff as primary enforcement unit)

- Registration of all jitney operators
    - Facilitates inspections
    - Improves accountability

Jitney Service and Operations – Next Steps

A phased approach is strongly recommended for implementation of an ordinance and eventual prescription of routes and service areas for jitney operators. Establishment of the oversight and enforcement bodies (Hudson TMA/HCIA, Hudson County Sheriff, Hudson County Prosecutor) is a critical first step, while the geographic component of jitney services will demand further planning and coordination between municipalities and transit operators, as well as a more detailed review of interstate vs. intrastate operating authorities and the legal ramifications of limiting services operated by federally licensed interstate providers. Next steps would include the following actions:

- Establish service zones
- Evaluate levels of service needed
- Limit number of vehicles in operation

Transit Service to Hudson County Plaza

Hudson County Plaza, a planned reuse of the former Block Drug building, is expected to house a number of relocated Hudson County departments. Hudson County Plaza is located in Jersey City at the northeastern corner of Mill Road and Wayne Street, with additional access via Academy Street and Cornelison Avenue. The site is several minutes south of the Journal Square Transportation Center.

This move has prompted a look at transit services in the area, as the relocation will bring both county employees to the site as well as agency clientele. Because employees and clients will be coming from all over the county to access this building, convenient transit access is important. A one-seat ride to this location will be difficult to provide from most areas of the county since this site is a bit out of the way from major transit hubs in the county, however connecting service from Journal Square and various local bus routes will provide access.

Existing Transit Services

The location of Hudson County Plaza is too far from PATH or the Hudson Bergen Light Rail to be effectively served by these modes. Thus local bus service will be an important mode to get people to and from the Hudson County offices, as well as the residential areas mentioned above. Currently there are three bus routes that operate within a close proximity to this area: Coach USA route 3, Coach USA route 99, and Montgomery & Westside.

Potential Service Changes

Both Coach USA and Montgomery & Westside, as operators of the local bus service, will need to be included in any discussion on route changes to serve this area. The Hudson County Plaza facility is expected to be operational by the end of 2008, thus it is imperative that negotiations begin with Coach USA to provide service as soon as possible.

The following preliminary changes are recommended to serve this area:

- Modify Coach USA Route 3 to operate past the Hudson County Plaza site.
- No change recommended to Coach USA Route 99 (monitor to ensure proper service levels) A change to the Montgomery & Westside route could be considered, however the diversion necessary for this route would likely cause greater inconvenience to through passengers on the Montgomery Street corridor.
- In addition to modifications to the private bus operators' routes in the area, a dedicated shuttle bus service may be eligible for funding through the Congestion Mitigation Air Quality (CMAQ) program.

Transit and Pedestrian Access

During this study, the Division of Planning and the study team worked with the Hudson County Office of the County Engineer and the Chief Architect for Hudson County Plaza to ensure that pedestrian and transit access would be included in the site planning process. As a result, bus stops and shelters are to be installed at the northwest and southeast corners of the site for both northbound and southbound transit service. These two stops will allow visitors and employees the option of entering the site at the highest elevation where Academy and Mill Streets join, or at the corner of Wayne Street and Cornelison Avenue at the bottom of the hill.

Recommendations for Bus Operations at Exchange Place

Per request of the Jersey City Department of Housing, Economic Development and Commerce and the Hudson County Division of Planning, the study team reviewed bus operations at Exchange Place in Jersey City, a major transit hub and terminus for numerous local and express bus routes operated by NJ Transit and private carriers. This review was prompted by ongoing transit operational and traffic issues stemming from the closure of the bus turnaround loop at Exchange Place, east of Hudson Street at Montgomery Street and adjacent to the PATH rail station entrance.

Current Issues

In 2005, the bus turnaround at Exchange Place was closed to all traffic, requiring all transit buses serving Exchange Place from Montgomery Street (eastbound) to turn north on Hudson Street, west on Christopher Columbus Drive, and either continue west or make another left and right turn to return to Montgomery Street westbound. This maneuver results in several traffic conflicts, most notably the combination of two crossings of the Hudson-Bergen Light Rail (HBLR) tracks on Hudson Street and the left turns from Montgomery Street and Hudson Street. Buses are frequently delayed by light rail train crossings, or the buses themselves may get stuck in the intersections and thus exacerbate other traffic conflicts. The Exchange Place bus turnaround also provided vital peak hour bus stop and layover locations which are now shifted to Montgomery Street between Greene and Hudson Streets.

Operational Alternatives

While re-opening the Exchange Place bus loop is the preferred solution, several alternate options exist to ameliorate the flow of bus transit in the area and maintain the effectiveness of the area as a transit hub. These include 1) modifying Montgomery Street between Greene and Hudson Streets to better accommodate the heavy transit volume or converting this section into a transit-only block (possibly peak period-only), 2) using southbound Hudson Street for bus stop locations in addition to eastbound Montgomery Street, or 3) using the block bounded by Montgomery Street, Greene Street, Christopher Columbus Drive, and Washington Street to turn, pick up and discharge passengers, and lay over between trips, space-permitting.

Recommendation

If the restoration of the bus loop at Exchange Place remains infeasible, the study team recommends further investigation of options number 1 or 2 presented above. Montgomery Street between Greene Street and Hudson Street should remain the focal point of transit operations serving Exchange Place. In all cases, strict enforcement of no-parking rules must be enforced and sufficient space must be maintained for bus stops and layovers to facilitate transit operations.

INTRODUCTION

The Hudson County Bus Circulation & Infrastructure Study was prepared for the Hudson County Division of Planning and the North Jersey Transportation Planning Authority (NJTPA) by a study team comprised of Urbitran Associates, Inc., Eng-Wong, Taub & Associates, and Howard/Stein-Hudson Associates. The study was designed to focus on the circulation patterns of the bus system in Hudson County, New Jersey, with the goal of improving and upgrading the physical infrastructure to improve efficiency, system safety, and traffic flow.

The project also addresses two specific transit issues in the county: the identification of options for bus service to the new Hudson County Plaza facility on Cornelison Avenue in Jersey City, as well as the impacts of jitney (private commuter van) operations on the bus system and roadway congestion and measures Hudson County may take to address them.

The study process relies heavily on input from transit customers, regional stakeholders, and a Technical Advisory Committee (TAC) to set priorities and guide the planning process.

CHAPTER 1 EXISTING TRANSIT SERVICES IN HUDSON COUNTY

This study begins with a review of existing transit services in Hudson County, focusing on primary bus corridors and key transportation hubs. A description of the type of transit service (bus, rail, ferry) in the county is provided, followed by characteristics of the corridors and hubs. Based upon an understanding of transit services that exist in the county today, a screening methodology is then developed to narrow the list of potential locations and improvement actions. These improvements, per the direction of the Hudson County Bus Circulation and Infrastructure Study, will be identified and developed with the over-arching goals of short-term implementability and a potential benefit for the greatest number of bus passengers and users of the regional transportation network, as well as operational improvements and cost savings for bus operators.

Local and Regional Bus Services

Fixed Route Bus Service (Local)

The largest bus service operator in Hudson County is NJ Transit, which operates 44 regular interstate and intrastate routes throughout the county. Most routes collect passengers from the northern, western and southern areas and bring them to one of the three main intermodal hubs in the county, or through the Lincoln Tunnel to the Port Authority Bus Terminal (PABT) in Manhattan.

Other operators include Coach USA/Red and Tan, Coach USA/Trans-Hudson Express, Coach USA/Staten Island Express, Coach USA/ShortLine, DeCamp, Bergen IBOA, Broadway IBOA, Montgomery and Westside, and Academy Express. NY Waterway also provides feeder bus service for it ferries between New Jersey and New York.

Fixed route bus service in Hudson County serves a variety of markets throughout Hudson County, including purely local travel, intra-state travel in New Jersey, and interstate travel to New York. Similarly, major travel corridors within Hudson County host different combinations of these services. Hudson County's major transit corridors and hubs will be discussed in greater detail in subsequent sections.

Fixed Route Bus Service (Commuter Express)

Commuter buses are operated by a combination of public and private operators, serving different purposes depending on where in the county they are operating. Commuter bus operations are designed as longer distance operations that operate during peak commuting periods bringing people from residential areas to major job locations. The operators include NJ Transit, Academy Express, Coach USA-Short Line, Coach USA-Staten Island Express, and DeCamp.

The major destinations in Hudson County for commuter bus service include Journal Square, Exchange Place and Hoboken, which are served by NJ Transit, Academy Express, and Coach USA-Staten Island Express commuter operations. The 30th/31st Street corridor in Union City effectively functions as a service road corridor for I-495 into Manhattan. The corridor is served

by numerous operators including NJ Transit and DeCamp, providing connections from Hudson County to Passaic and Bergen Counties, as well as New York City. DeCamp also operates a commuter service from Harrison and Kearny into New York, while Coach USA-Short Line operates a commuter service from Secaucus into New York.

Jitney Operators

In addition to the myriad transit services provided by public and private operators in Hudson County, an increasing number of smaller "jitney" van operators compete for customers on local streets. The jitney services cater to the large immigrant population of Hudson County municipalities such as Union City, Jersey City, or West New York. Smaller vans operate more frequently than many traditional fixed route bus services and focus on transit hubs such as Journal Square and key corridors including Bergenline Avenue, Boulevard East, and JFK Boulevard. The Newport Mall in Jersey City is also a major destination for jitney operators, as well as a de-facto layover and staging area for several services.

Jitney operators offer services within Hudson County, to New York City, and increasingly to other New Jersey destinations such as Patterson in Passaic County. Fixed route operators such as NJ Transit acknowledge that jitney operators, once seen strictly as competitors, have begun to address gaps in the regional transit network, primarily in terms of service frequency. Nonetheless, concerns abound that many jitney operators do not adhere to state regulations for transit carriers, operate in unsafe manner or with substandard equipment, and contribute to traffic congestion and conflicts in an already crowded and difficult operating environment.

Companies operating jitney services in and through Hudson County include Spanish Transportation, Sphynx, Pyramid, Vanessa, Fuji, J&T Tours, Community Lines, Express Service, Airport Service of NJ, and Ashley Transportation. In several cases, individual jitney van companies are owned/operated by parent companies, such as Express Service (Spanish Transportation) and Airport Service of NJ (Pyramid).

Other Transit Services

A variety of transit modes exists throughout Hudson County, New Jersey's most densely populated county and trans-Hudson neighbor to New York City. The county's three largest transit hubs, Hoboken Terminal, Exchange Place and Journal Square, are host to transit services including:

- Port Authority Trans-Hudson heavy rail line (PATH)
- Hudson-Bergen Light Rail (operated by NJ Transit)
- NJ Transit Commuter Rail
- NY Waterway, NY Water Taxi ferries

PATH

The Port Authority of New York and New Jersey (PANYNJ) operates heavy rail/subway service on the Port Authority Trans-Hudson line (PATH). Four rail lines connect New Jersey and New

York: World Trade Center to Newark, World Trade Center to Hoboken, 33rd Street to Hoboken, and 33rd Street to Journal Square. During late nights and weekends, the service pattern is modified to provide service on two lines; World Trade Center to Newark, and 33rd Street to Journal Square via Hoboken.

Out of a total of 13 PATH stations, six are located in Hudson County including four in Jersey City (Exchange Place, Pavonia-Newport, Grove Street, and Journal Square), one in Hoboken, and one in Harrison. Most of the major intermodal centers in Hudson County are located at PATH stations. These intermodal terminals include connections to and from buses, jitneys, commuter rail, and light rail.

Hudson Bergen Light Rail

The Hudson Bergen Light Rail is a regional rail service in Hudson County. It provides rail service between Bayonne, Jersey City, Hoboken, Union City, Weehawken, and North Bergen. Three service configurations make up the Hudson Bergen Light Rail: Bayonne to Hoboken, Tonnelle Avenue to Hoboken, and Tonnelle Avenue to West Side Avenue.

Light rail stations in Hudson County include (from north to south) Tonnelle Avenue, Bergenline Avenue, Port Imperial, Lincoln Harbor, 9th Street-Congress Street, 2nd Street, Hoboken Terminal, Pavonia-Newport, Harsimus Cove, Harborside Financial Center, Exchange Place, Essex Street, Marin Boulevard, Jersey Avenue, Liberty State Park, Garfield Avenue, Martin Luther King Drive, West Side Avenue, Richard Street, Danforth Avenue, 45th Street, 34th Street, and 22nd Street.

The system is designed to feed the employment, retail and residential developments of downtown Jersey City (Exchange Place, Pavonia-Newport) and Hoboken, while providing an efficient transit link between the various Hudson County municipalities it serves. With the system's introduction, NJ Transit reconfigured many local bus routes in north/south corridors such as Bergenline and Kennedy Avenues. Several routes that served the length of the Hudson County "spine" now terminate in Union City at or near the Bergenline Avenue light rail station, encouraging transfers between the bus and light rail systems more than through travel on the local bus network.

NJ Transit Commuter Rail

NJ Transit commuter rail serves two stations in Hudson County, the Frank R. Lautenberg Rail Station (Secaucus Junction) and Hoboken Terminal. The two stations in Hudson County serve two different purposes. Secaucus Junction is primarily a transfer station between the various lines operating out of New York Penn Station and Hoboken. The Hoboken Terminal is a terminal station that brings commuters from various parts of New Jersey into Hudson County, with connections into Manhattan via the PATH or ferry services.

Ferry Service

Ferryboat services in Hudson County connect the waterfront areas in Jersey City, Hoboken and Weehawken with Manhattan. Service is operated by NY Waterway and NY Water Taxi, both private operators. Ferry terminals are located at Port Liberte, Liberty Harbor, Warren Street, Paulus Hook, Newport (Jersey City), Hoboken North and South Piers (Hoboken), Lincoln Harbor, and Port Imperial (Weehawken). Ferries operate to Manhattan at the World Financial Center, Pier 11/Wall Street, and Midtown/West 39th Street.

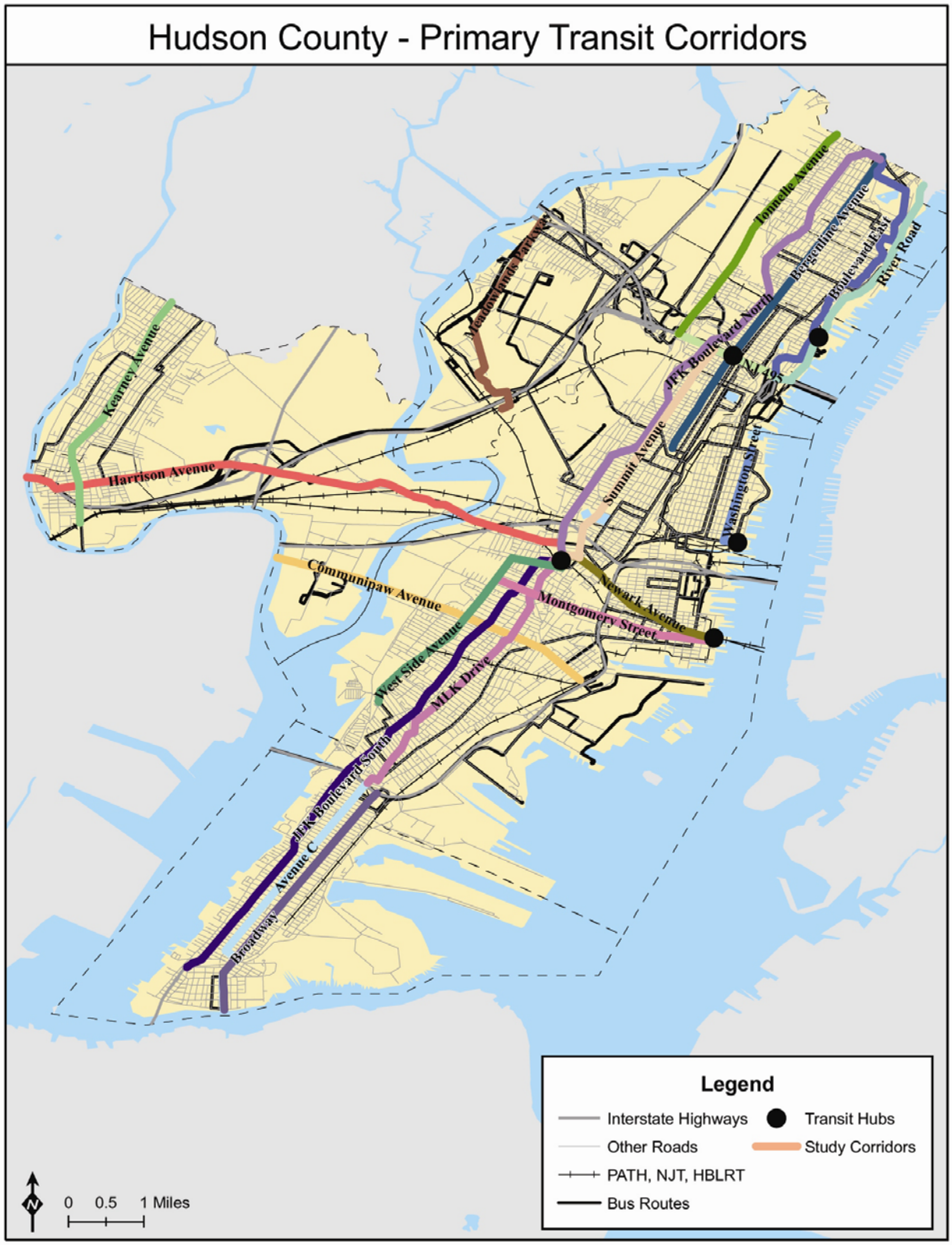
Transit Corridors

In addition to heavy bus activity around intermodal hubs, a number of principal corridors in the county carry significant bus traffic and warrant consideration for physical improvements as part of this Bus Circulation and Infrastructure Study. In order to be inclusive in the selection process, ach of the corridors listed below represents a major arterial or primary transit corridor. The levels of service on these corridors ranges from one peak bus trip per hour (Harrison Avenue in Harrison) to almost 40 trips per hour (30th/31st Streets in Union City). In this section, a brief description of each corridor is provided, whereas in subsequent steps the corridors will be sorted according to quantitative service and ridership levels. The corridors listed below are displayed, along with the county's largest transit hubs, on Figure 1-1.

I-495, 30th and 31st Streets

In terms of transit volume, the most significant of these corridors follows I-495 (and parallel 30th and 31st Streets) through Union City and Weehawken into New York City. Nearly 40 buses per hour travel through this corridor, either on the highway or on the service 30th/31st Street service roads. Many interstate routes from points further west exit Route 495 west of JFK Boulevard, travel along 30th Street east, and rejoin I-495 prior to the Lincoln Tunnel. Westbound, the buses travel along 31st Street, reentering I-495 after JFK Boulevard. Additional routes, originating from the north and south, enter 31st Street from Bergen Turnpike, or Bergenline Avenue, or enter 30th Street from JFK Boulevard or Palisade Avenue. Some of these routes exit I-495 during limited service hours only. The corridor is a major through corridor for New York traffic as well as a critical transfer point for east/west and north/south routes.

Figure 1-1


Hudson County - Primary Transit Corridors
Tonnelle Avenue
Bergenline Avenue
Boulevard East
River Road
Meadowlands Parkway
JFK Boulevard North
Kearney Avenue
Harrison Avenue
Summit Avenue
Washington Street
Communipaw Avenue
Newark Avenue
Montgomery Street
West Side Avenue
MLK Drive
JFK Boulevard South
Avenue C
Broadway
Legend
Interstate Highways
Transit Hubs
Other Roads
Study Corridors
PATH, NJT, HBLRT
Bus Routes
N
0 0.5 1 Miles

Bergenline Avenue

The north/south Bergenline Avenue corridor carries a significant amount of bus traffic, with ten NJ Transit routes and nearly 40 trips per hour at peak time, as well a substantial concentration of jitney van operations. The majority of bus traffic is found on the section between 90th Street and 48th Street, though five routes continue south of the Bergenline Avenue light rail station at 48th Street to either 22nd or 2nd Street. Most of these routes carry passengers from municipalities in northern Hudson County, such as North Bergen and West New York as well as commuter suburbs to the north, to intermodal transit hubs in the middle of the county or to the Port Authority Bus Terminal in New York. The intersection of this high-traffic corridor with the I-495 corridor discussed above will be particularly important to examine.

Boulevard East

Another corridor with particularly frequent bus traffic is JFK Boulevard East (Boulevard East). It runs north-south along eastern Hudson County in North Bergen, West New York and Weehawken, primarily carrying passengers from northern Hudson County and commuter suburbs to the north and west into New York City via I-495. It carries five routes between Woodcliff Avenue and I-495, with 30 trips per hour at peak times.

River Road

In Hudson County, River Road follows the Hudson River from northern North Bergen to Weehawken, linking several waterfront communities and shopping centers with access to New York (either by ferry at Port Imperial or via Boulevard East to I-495) to the east and points south and west in the county. Transit service on River Road is primarily oriented to peak-period travel, with 24 trips in the peak morning hour versus only three trips per hour in the mid-day period. NJ Transit is the primary bus operator in the corridor.

Washington Street

In addition to Observer Highway, which provides connections west of Hoboken Terminal, the other primary corridor in Hoboken is Washington Street, which runs north/south at the city's eastern end. Washington Avenue feeds the principal commercial development of Hoboken and terminates one block west of Hoboken Terminal. Many buses entering and exiting the Hoboken Terminal make movements that require use of both Washington Avenue and Observer Highway before following one corridor or the other out of the area. NJ Transit is the primary bus operator in Hoboken.

Summit Avenue

Three NJ Transit routes provide modest levels of local service on Summit Avenue, all focused on the corridor south of 30th/31st Streets in Union City. Regional service from Bergen County and Secaucus operates on Summit Avenue south to Hoboken Terminal, Journal Square, or Exchange Place transit hubs. South of Journal Square, Coach USA operates local bus service on Summit Avenue.

Martin Luther King Drive

NJ Transit's Route 87 is a core Hudson County route connecting Hoboken Terminal with lower Jersey City at the southern end of Old Bergen Road in Greenville. While the average daily ridership for this route exceeds 10,000 passengers, the MLK Drive segment accounts for roughly one-third of the total route length. North of Communipaw Avenue, the King Drive route follows other key north/south alignments including Bergen, Summit, Central, and Palisade Avenues before turning east to Hoboken.

West Side Avenue

Two NJ Transit routes and local service by Montgomery & Westside operate on West Side Avenue in Jersey City. NJ Transit's route 80 follows the corridor from Danforth Avenue north to Montgomery Street (select trips continue to Sip Avenue) before serving Journal Square. Route 1, which serves both Journal Square and Exchange Place, operates along Westside Avenue north of Montgomery Street for trips to Journal Square. West Side Avenue is the western-most transit corridor in Jersey City.

Avenue C

Avenue C is one of three north/south transit corridors between Bayonne with Jersey City. NJ Transit operates two routes on Avenue C: 81 and 120. The 81 is a local service connecting lower Bayonne with Exchange Place in Jersey City. The Route 120 is a commuter service with local stops in Bayonne before changing to express service to lower Manhattan via the NJ Turnpike Extension and the Holland Tunnel in the peak periods only.

Broadway

The Broadway corridor in Bayonne runs parallel to Avenue C, one block to the east. In downtown Bayonne, Broadway is the primary commercial and shopping street. Local bus service within Bayonne is provided in this corridor throughout the day by the IBOA company. Broadway IBOA operates an average of four trips per hour during both peak and mid-day periods.

JFK Boulevard North

The northern segments of JFK Boulevard connect North Bergen, West New York, Guttenberg and Union City with Jersey City and points south. Transit services in the northern half of Hudson County follow JFK Boulevard south either to I-495 and into New York or through Union City and Jersey City to the Journal Square facility. North of 31st Street, the JFK Boulevard corridor parallels the busier Bergenline Avenue corridor, which hosts more fixed route bus service as well as more jitney van services.

JFK Boulevard South

The western-most of the three transit corridors in Bayonne, JFK Boulevard runs from the city's southern end to northern Hudson County under the same name. The entire JFK Boulevard corridor passes through North Bergen, West New York, Union City, Jersey City, and Bayonne. In Union City and Jersey City, some transit routes operate from New York via I-495 and 30th/31st Streets south on JFK Boulevard to Journal Square.

In Bayonne, the transit operator is Coach USA with two routes, 10 and 99s. Two travel lanes in both directions for much of its lengthy, JFK Boulevard in Bayonne is more residential in nature than Avenue C and Broadway. Given the length of the corridor and the numerous intersections and cross streets, transit travel between southern Bayonne and Journal Square in Jersey City can be arduous.

Montgomery Street

Montgomery Street represents a principal east/west corridor in Jersey City, extending westward from Exchange Place to West Side Avenue. The majority of transit activity occurs between Exchange Place and I-78, the route used by numerous express NJ Transit and private operator express buses. Montgomery & Westside buses operate west beyond the highway and serve St. Peters College and local neighborhoods.

At its eastern end, Montgomery Street allows connections with other transit including the Grove Street and Exchange Place PATH stations, the Hudson Bergen Light Rail, and ferry service at Exchange Place.

Communipaw Avenue

A second east/west transit corridor in Jersey City is Communipaw Avenue, which is served by NJ Transit's Route 1 and private routes operated by Coach USA. NJ Transit's Route 1 connects Exchange Place with Newark via Kearny. Communipaw Avenue is a connector to West Hudson, whereas parallel Montgomery Street exists only within Jersey City.

Tonnelle Avenue

The Tonnelle Avenue corridor follows the western edge of the Hudson County spine, typically through heavily industrial areas. For much of its length, the avenue is a divided highway with limited access and little or no opportunity for pedestrian activity and/or bus stops. With the opening of the Hudson Bergen Light Rail terminus at the Tonnelle Avenue station in North Bergen, additional park and ride and transit connections are available. NJ Transit routes 83 and 127 serve Tonnelle Avenue in North Bergen, as far south as the I-495 service roads and Paterson Plank Road.

Newark Avenue

The Newark Avenue corridor provides a key transit link between the Journal Square and Exchange Place hubs for local travel in Jersey City. The corridor's primary route, NJ Transit route 80, begins in Exchange Place and continues south after Journal Square to the Greenville section of Jersey City via Bergen Avenue, West Side Avenue, and various local streets before its terminus on Old Bergen Road. Effectively this route serves two corridors, but it nonetheless is the focus of operations on the Newark Avenue segment. Coach USA also provides local service on Newark Avenue.

Meadowlands Parkway

Meadowlands Parkway in Secaucus is a principal circulation road in the Harmon Meadow area of the municipality, providing access to a variety of residential, retail, and commercial/industrial developments. NJ Transit serves the area with several bus routes. These routes cater to different markets depending upon the time of day, travel direction, and origin/destination. Commuter express service is available for residents of the area to New York, reverse commuters from New York and Hudson County use NJ Transit, and local travel to the outlet malls and retail establishments have service throughout the day. Meadowlands Parkway as a corridor is more removed from the other primary thoroughfares in Hudson County, although the level of transit service to Harmon Meadow and Secaucus is notable.

Harrison Avenue

The Town of Harrison in western Hudson County is a less densely developed municipality than those in eastern half. Transit in Harrison limited, with routes such as NJ Transit route 43 making peak period trips connecting Newark and Jersey City. Traffic volumes and conflicts are generally much lower in this area than along denser Hudson spine.

Kearny Avenue

Similar to Harrison Avenue, Kearny Avenue in Kearny is that town's primary thoroughfare for transit. NJ Transit routes 39 and 76 do, however, operate at greater frequencies and exhibit much higher average daily ridership than the selected 43 trips in Harrison. Ridership on these routes is also bolstered by more local/regional service beyond Newark. The route 76 connects Newark with Hackensack via Kearny, operating along the same corridor.

Regional Transit Centers

Given the dependence of the population on multi-modal transit options, heavy bus activity is found primarily along routes that connect to the main intermodal hubs, as well as near smaller connection locations. These services are discussed below.

Journal Square

Journal Square serves as the major bus transit hub in Hudson County, with 17 routes and over 45,000 riders. The station features off-street bus lanes and platforms and serves the PATH 33rd Street and WTC lines. Bus traffic is heavy on the four roads that boarder Journal Square: Sip Avenue to the south, JFK Boulevard to the west, Pavonia Avenue to the north and Summit Avenue to the east. The bus bays are located off of Sip Avenue.

Most bus traffic to and from Journal Square is concentrated along the major north-south thoroughfares, with JFK Boulevard and Summit Avenue north of the station, and Bergen Avenue and JFK Boulevard to the south. Buses serving Journal square provide connections to Newark (1), Secaucus (2), southern Jersey City (80, 87), Hackensack (83), North Bergen (84, 88), New York City (125) and commuter suburbs further south (64, 67). In addition, some routes continue on to Exchange Place (1, 80, and 64) or Hoboken Terminal (87).

Hoboken Terminal

Hoboken Terminal, an NJ Transit commuter rail terminal, is served by nine NJ Transit bus routes and two Coach USA routes, as well as the PATH, Hudson Bergen Light Rail, and ferry services. Buses arrive at the station via Washington Street, which runs north-south near the Hudson River, or via Newark Avenue and Observer Highway, which connect to the west. The Hoboken Terminal is served by bus connections to North Bergen (22, 23, 89), Secaucus (85), Union City (22x), and southern Jersey City (87), as well as connections to NYC (126) and commuter suburbs further south (64, 68).

Exchange Place

Eight NJ Transit buses provide service to Exchange Place, as do two Academy buses, one Coach USA bus and one Montgomery and Westside bus. Buses arrive on Montgomery Street, which is oriented east-west and provides access to the Exchange Place station. From Montgomery Street, buses predominantly travel north on Marin Boulevard to connect to Newark Avenue and points further west or north. The Exchange Place station is serviced by bus connections to Newark (1, 43), Bayonne and southern Jersey City (81, 80), Union City (82), North Bergen (84) and commuter suburbs further south (64, 68).

Secaucus Junction Rail Station

NJ Transit's Secaucus Junction rail station is built above the Northeast Corridor and Main Line in Secaucus. The station allows connections between trains on NJ Transit's Main, Bergen, Pascack Valley, Port Jervis, Montclair-Boonton, Morristown, Gladstone, Northeast Corridor,

North Jersey Coast and Raritan Valley lines. Nine bus lines also serve the station, including eight NJ Transit routes (2, 78, 85, 124/129, 190, 320, 772, 972), DeCamp Route 32, and several local shuttle services. The station is within close proximity to the Harmon Cove area of Secaucus and also is accessible from the NJ Turnpike.

Other Intermodal Hubs

Other significant intermodal hubs serviced by NJ Transit and other bus operators include Grove Street and Bergenline Avenue. Grove Street, located adjacent to Jersey City's City Hall, provides connection to the PATH train. Though located in close proximity to Exchange Place, the Grove Street Station is also served by the Hoboken/33rd Street branch in addition to World Trade Center service. The Grove Street Station is accessed by buses via Newark Ave and Marin Boulevard, as they travel from Exchange Place to points west, or vice versa. Grove Street is serviced by NJ Transit Routes 43, 64, 68, 80, 81, and 82.

The transit hub at the Bergenline Avenue station of the Hudson Bergen Light Rail allows bus travelers from the northern reaches of the county and beyond to transfer from the bus to the quicker Light Rail system in order to reach major hubs at Hoboken Terminal and Exchange Place. Buses traveling north-south along JFK Boulevard, Bergenline Avenue or New York Avenue stop at 49th Street (either on Bergenline Avenue or in the dedicated bus loop at the station) to provide access to the Hudson Bergen Light Rail. This hub is serviced by NJ Transit Routes 22, 84, 88, 89, 154, 156, 159 and 181.

Further south, the intersection of the Route 495 and Bergenline Avenue corridors represents another major transfer location for local and regional bus services. Heavy bus volumes use 30th and 31st Streets in Union City to pick up and drop off passengers along routes that travel the Route 495 corridor, typically to and from New York via the Lincoln Tunnel. In addition to through routes traveling east/west, a number of interstate bus routes switch from the north/south corridors such as Bergenline Avenue to Route 495 and the service roads. Increasingly, local bus passengers are also transferring to westbound services along 31st Street to access job sites in western Hudson County as well as Bergen and Passaic Counties.

The Port Imperial ferry terminal in northern Weehawken hosts three NY Waterway ferry services to Manhattan: Midtown/W. 39th Street, World Financial Center, and Pier 11/Wall Street. Transit connections to the ferry terminal are provided by NJ Transit bus routes 23, 158, and 159, as well as the Hudson Bergen Light Rail (Port Imperial). NY Waterway also provides limited feeder bus service for ticket holders to nearby waterfront communities such as Jacobs Ferry, The Landings, and Riverbend.

In North Bergen, Bergenline Avenue at the west side of James J. Braddock North Hudson Park serves as a major bus stop and layover location for local and regional buses operated by NJ Transit. This area, frequently referred to as Nungessers, is a gateway to Hudson County for numerous Bergen County routes bound for lower Hudson County or New York City. The area is also a busy area for jitney van activity serving the Bergenline Avenue corridor.

CHAPTER 2 CORRIDOR SERVICE COMPARISON PHASE 1 SCREENING METHODOLOGY

As part of the study process, priority corridors must be identified to focus more detailed analysis for potential physical improvements. As a general rule, corridors with the highest total transit volumes warrant greater consideration, however various operating and policy decisions may also be taken into account. In the Phase 1 Screening process, corridors are identified based on the existence of notable transit service levels (number of bus trips, ridership, etc.) throughout Hudson County. These corridors are situated within the county but may host bus routes that extend beyond Hudson County borders.

Table 2-1 identifies the universe of transit corridors in Hudson County. For each corridor, the following data provide a snapshot of current weekday transit activity:

- Corridor – Defined according to the single road most associated with the route of the bus service(s).
- Average Daily Ridership – An average weekday ridership volume for all trips operating on the corridor, in both directions. This ridership figure includes passengers counted for the entire length of a route, not only the portion operating on the corridor in question.
- Peak Trips per Hour – The number of trips on the corridor during the busiest hour of service in the peak-direction.
- Mid-day Trips per Hour – The average number of trips on the corridor in an hour between 10am-2pm in both travel directions.

Importantly, the definition of many corridors requires some degree of generalization, as bus routes often deviate from a primary street either change course or rejoin the original street after serving a particular location, e.g., NJ Transit routes in Bayonne operate briefly on Broadway but are not considered to serve the entire Broadway corridor as the Broadway IBOA service does. Furthermore, a specific street/corridor may be served at different points by different bus routes, as well as for a single route for its entire length. Bergenline Avenue, for example, hosts bus routes from northern Hudson County that join I-495 to New York City, routes that continue south to Jersey City, and routes from New York that turn south from I-495. In this case, the corridor definition includes all three types of services even though not all three travel the entire length.

Table 2-1 – Corridor Service Levels

Corridor	Number of Routes	Peak Trips per Hour	Ridership	Midday Trips per Hour	Frequency Ratio	Peak Travel Time	Evening Travel Time	Travel Time Ratio
NJ 495 (30th/31st St)	20	39	55,680	15	2.60	10	10	1.00
Washington St	6	38	* 13,750	6	6.33	13	10	1.30
Boulevard East	5	30	* 31,673	6	5.00	29	23	1.26
Bergenline Ave	6	26	* 23,170	14	1.86	58	41	1.41
River Road	4	24	17,943	3	8.00	30	30	1.00
JFK Blvd South	2	16	10,502	8	2.00	45	35	1.29
MLK Drive	1	15	10,567	4	3.75	48	42	1.14
Avenue C	2	12	3,855	2	6.00	18	16	1.13
West Side Ave	3	* 11	* 23,730	* 5	* 2.20	23	18	1.28
JFK Blvd North	3	10	* 3,120	7	1.43	41	37	1.11
Newark Ave	3	10	*7,772	5	2.00	25	22	1.14
Kearny Ave	2	9	18,387	6	1.50	18	12	1.50
Meadowlands Pkwy	3	8	* 3,767	4	2.00	25	23	1.09
Tonnelle Ave	2	8	5,362	3	2.67	17	15	1.13
Summit Ave	3	7	5,611	3	2.33	25	20	1.25
Broadway	1	4	*	4	1.00	*	*	*
Communipaw Ave	1	3	16,143	1	3.00	18	16	1.13
Harrison Ave	1	1	166	0	- -	15	13	1.15
Montgomery St	1	*	*	*	*	*	*	*

* Operating data from various private bus operators requested by the study team was unavailable for this project.

Corridor Service Evaluation

For an initial inventory of transit services at the corridor level, a best effort is made to define which services serve a corridor, based on a qualitative evaluation of which bus routes operate a sufficient distance on the corridor to be considered a key component of the network. In subsequent steps, as a framework for corridor evaluation is established, the components of a corridor (i.e., associated bus routes and ridership) will be expanded to include streets one block to either side of the corridor. This overlap in service quantity demonstrates the entire market potential for each corridor, whereby significant improvements to travel times in one corridor may prompt a redistribution of ridership from other bus routes, or service changes on the part of bus operators to follow the more efficient corridor.

For each corridor included in Table 2-1 above, the following data (again based on weekday transit activity) can be used to more thoroughly evaluate the relative importance of each corridor in the county:

- Corridor – Defined according to the single road most associated with the route of the bus service(s).
- Average Daily Ridership – An average weekday ridership volume for all trips operating on the corridor, in both directions.
- Peak Trips per Hour – The number of trips on the corridor during the busiest hour of service in the peak-direction.
- Peak Frequency – The number of trips on the corridor during the busiest hour of service in the peak-direction, expressed as a decimal.
- Mid-day Trips per Hour – The average number of trips on the corridor in an hour between 10am-2pm in both travel directions.
- Mid-day Frequency – The average number of trips on the corridor in an hour between 10am-2pm in both travel directions, expressed as a decimal.
- Frequency Ratio – The ratio of peak period to mid-day trips, whereby a higher number indicates a greater concentration of service in the peak period.
- Peak Travel Time – Based on bus operators' public timetables, the travel time for the corridor's principal route between the first and last time points in the corridor during the peak hour/direction of service.
- Evening Travel Time – Based on bus operators' public timetables, the travel time for the last trip of the night between the first and last time points in the corridor. This travel time is intended to shoe the "free flow" travel time when traffic is typically lightest.
- Travel Ratio – The ratio of peak hour to free-flow travel times in the corridor, whereby a higher number indicates the greatest variation due to congestion, and thus the greatest potential for travel time improvement.

In addition to the primary transit corridors identified in Hudson County, similar combined ridership figures and service levels are included for five key transportation hubs: Journal Square, Exchange Place, 31st Street/Bergenline Avenue, Hoboken Terminal, and Port Imperial.

As noted previously, given the inherent estimation of ridership volumes and service parameters for a given corridor in the context of this study, the figures presented in these tables are designed

for evaluative purposes more than absolute, objective ranking of the transit routes in Hudson County. Ridership figures refer to total average daily ridership of the trips including in each corridor, not merely the ridership within the designated section at the county or local level.

What the qualitative analysis does allow is an informed comparison of different corridors and the relative size of the transit market that might be affected by changes to either service, or in the case of this study, physical roadway characteristics that might improve travel times for buses in Hudson County. While the goal remains to provide improvement on corridors where the most transit customers will benefit, certain policy considerations or other qualitative decisions may come into play when selecting five preferred target corridors.

From the universe of 19 corridors and transit hubs identified in the Phase 1 Screening (Table 2-1 and Table 2-2 below), up to ten would be advanced through a more detailed evaluation in Phase 2 Screening. This process was based upon an objective review of the relative transit volumes, travel times, and local/policy considerations in conjunction with stakeholder input and discussion with the Technical Advisory Committee.

Phase 2 Screening focuses more on detailed operational information- including bus ridership at the corridor segment level- corridor characteristics (geometrics, number of travel/parking lanes, street regulations, traffic signal locations, etc.), local community and environmental issues, and intermodal opportunities and connections to the regional transportation system.

Table 2-2 – Transit Hub Service Levels

Corridor	Number of Routes	Peak Trips per Hour	Ridership	Midday Trips per Hour	Frequency Ratio
Journal Square	17	77	61,565	43	1.79
Exchange Place	12	44	34,721	12	3.67
31 Street/Bergenline	29	76	82,171	32	2.38
Hoboken Terminal	11	65	26,506	11	5.91
Port Imperial	5	31	17,014	2	15.50

CHAPTER 3 CORRIDOR SERVICE COMPARISON PHASE 2 SCREENING METHODOLOGY

In the subsequent steps, the study team evaluated each corridor listed above based on the potential benefit and implementability measures. These measures form the basis for a series of evaluation criteria, along with a number of qualitative decisions based on characteristics of the corridor. Evaluation of corridors will first seek to identify those that do not meet minimum thresholds such as peak buses per hour, ridership, travel delay, etc.

Measures of Potential Benefit

As corridors are advanced through Phase 2 Screening, the potential for beneficial improvement will be evaluated through the following measures:

- Number of customers benefiting from the improvement – The higher the ridership in the corridor or at the specific location, the more benefit.
- Potential for travel time savings – Measures can be developed to provide an indication of travel speed improvement if elements were provided that can allow buses to operate more efficiently either along a corridor or through a congested location.
- Potential for ridership growth – Some measures of potential growth will be quantifiable at this stage (based on ridership growth trends in recent years along with known plans for development), others may be based more on professional judgment and experience in similar environments.
- Potential for improved reliability – This measure considers whether the physical and geometric constraints (or lack thereof) in a corridor allow for consistent improvements in operations to improve overall reliability.

Measures of Implementation Feasibility

Furthermore, as corridors and potential improvements are identified, measures of implementability will come into play:

- Physical limitations – Sufficient right-of-way, road widths, turning radii, sidewalk space, and other physical factors form a fundamental component of the types of recommendations anticipated in this study. Each proposed improvement will be fully evaluated to determine the feasibility of its implementation given constraints of the local roadway geometrics and environmental factors. Options requiring less drastic change of the physical environment will be ranked higher than those for which physical change would be extensive or impractical.
- Need for parking changes – On-street parking is often a source of friction in municipalities where a balance must be sought between effective use of the roadway, revenue from parking fees, and impacts on local businesses that may rely on curb-side parking in denser urban environments. Proposed actions that require changes to parking will be evaluated based on the feasibility of change in each location.
- Traffic impacts – The potential impact on traffic of each action proposed will be scored from no impact to major unsolvable impact.

- Need for enforcement – Enforcement of traffic and parking regulations is often the key to successful implementation of any transit-related improvements. Whether an improvement requires enforcement of bus stops, travel lanes, queue jumps, or other transit-priority uses of the local roadway network, the more enforcement that is required in a given area often relates to the degree of difficulty of sustained improvement.

Ranking of Locations and Improvement Actions

Ordinal rankings for each of the improvement locations/concepts advanced will be developed, with two scores (scale of 1 to 5) assigned for each: one for potential benefit and one for implementation feasibility. Four outcomes (listed hierarchically) are possible for the locations advanced in Phase 2:

1. Locations/actions that have high potential for benefit and are readily implementable.
2. Locations/actions that have fewer benefits but can be readily implemented.
3. Locations/actions with high potential for benefit but may be difficult to implement.
4. Locations or actions that should be dropped from consideration.

The projects that are both rated highly for potential benefit and are most likely to be implemented (group 1) will be those advanced for the most detailed development in Phase 3.

While the ultimate goal of this study is to implement improvements that will positively impact the greatest number of people (bus passengers, transportation system users), transit ridership cannot serve as the only criterion when selecting corridors and specific locations for improvements. Localized issues and input from stakeholders and the Technical Advisory Committee will also play an important role in determining priorities among corridors and specific locations in Hudson County.

Furthermore, it is important to recognize throughout the study how certain corridors and specific [transit hub] locations may overlap in the screening and evaluation process. Corridors such as Montgomery Street in Jersey City exist on their own with one or more transit routes, but are also integrally linked to transit hubs such as Exchange Place. Both transit hubs and entire corridors will be considered through the initial screening process, and where effective, will either be included in conjunction with one another or individually.

Selection of Study Locations

Following the initial identification of the universe of transit corridors in the county, the study team, in conjunction with stakeholders and the Technical Advisory Committee, narrowed the list of corridors and spot locations that merited further in-depth review. In several cases, site visits and discussion revealed that specific corridors were fundamentally sound but one or more spot locations were identified. Thus, the selection of priorities for field work and primary data collection ultimately focused more on these specific locations than entire corridors.

The corridors and locations selected for Phase 2 review include the following, along with preliminary issues prompting this review:

Corridors:

1. Bergenline Avenue
2. JFK Boulevard South
3. Montgomery Street

Spot Locations:

1. 30th/ 31st Streets (Union City)
- Intersections with Bergenline Avenue
- Westbound entrance to Route 495

2. Washington Street (Hoboken)
- Vicinity of Hoboken Terminal

3. Boulevard East (West New York, Weehawken)
- Parking/bus stop placement (e.g., 60th Street)
- Intersection of Boulevard East/Ferry Road/Bellevue Avenue in Guttenberg

4. River Road (Weehawken)
- Vicinity of Port Imperial

5. Martin Luther King Drive (Jersey City)

6. West Side Ave (Jersey City)
- At Duncan Avenue
- At Communipaw Avenue
- General concerns about street width, vehicles parked in bus stops, etc.

7. JFK Boulevard North (Jersey City, Union City)
- Vicinity of Journal Square
- 49th Street/Hudson Bergen Light Rail Bergenline Avenue station

8. Newark Avenue (Jersey City)
- Vicinity of Journal Square (Summit Avenue intersection, Hudson County Administration Building., etc.)
- Intersection with Palisade Avenue by Dickinson HS [jitney traffic]

9. Kearny Avenue (Kearny)
- Intersection of Kearny and Midland Avenues – safety issues
- Bus stop locations and configurations/striping in downtown Kearny
- Signal timing

The inclusion of Newark Avenue and JFK Boulevard North in the vicinity of Journal Square was prompted primarily by jitney operational and safety concerns. The Journal Square facility itself was not included as a location given the significantly higher complexity and need for a level of review and analysis not feasible in this study. Similarly, Exchange Place and Hoboken Terminal were not advanced for detailed review with the exception of specific operational concerns at Exchange Place for which a separate analysis would be conducted (see Chapter 8).

Evaluation and Analysis of Jitney Services

Finally, while operating data and ridership figures are not readily available for jitney operations in Hudson County, the study team was charged with investigating both the operating and policy considerations of this segment of the transportation network in subsequent steps of this effort. Several corridors and transit hubs were identified through input from stakeholders, the TAC, and field work as hosting considerable jitney traffic, and thus will be considered for further study from both operational and policy perspectives in Chapter 5.

Locations for further review included:

- Bergenline Avenue (West New York, Union City)
- 30th, 31st Street (Union City)
- Boulevard East (North Bergen, Guttenberg, West New York, Weehawken)
- JFK Boulevard South (Union City, Jersey City)
- Newark Avenue (Jersey City)
- Newport Mall (Jersey City)

CHAPTER 4 SUMMARY OF PUBLIC OUTREACH

This chapter provides a summary of input from regional stakeholders in Hudson County as well as input received during the first project open house held in July, 2006 in Union City and subsequent public "drop-in" sessions held at key transit locations in the county. Public participation represents a fundamental component of the study process.

Stakeholder Interview Comments

Under the direction of the Hudson County Division of Planning, the study team engaged policy-makers, law enforcement, planning, and other officials throughout the county to discuss specific concerns relating to traffic, transit, safety, and potential for improved bus operations at the local level. These conversations typically lasted between 30 minutes and an hour and stakeholders were asked to provide as much specific detail as possible to assist in the selection of study corridors and pinpoint critical streets, intersections, or facility locations where transit travel is most challenged.

Summary of Key Themes

Throughout the interview process in the early study phases, several key issues and themes emerged from discussions with regional stakeholders:

- In densely developed municipalities (particularly the north/south "spine" of Hudson County), bus traffic is delayed and impacted by severe traffic congestion throughout key corridors.
- Bus stops in many municipalities are placed too close together, or transit operators make stops too frequently even when marked bus stops are adequately spaced.
- Buses often are unable to pull into bus stops completely, blocking traffic behind and creating potential safety hazards for passengers.
- Jitney van services serve a growing ridership market but a lack of regulation and enforcement leads to numerous safety and operational concerns.
- Congestion is a given throughout much of Hudson County, but small physical/operational changes can make appreciable improvements in transit and traffic flow.

The comments received from stakeholders are distilled in this section, grouped in no particular order by municipality or other affiliation.

Town of Harrison

The Town of Harrison, across the Hackensack River from Newark, does not experience the same pervasive traffic congestion as municipalities in eastern Hudson County. Three corridors host bus service in Harrison: Davis Avenue, Frank E. Rodgers Boulevard, and Harrison Avenue.

Traffic officials in Harrison did not report any significant safety or operational issues related to bus service. Traffic congestion is more evident around Town Hall on Harrison Avenue, but stop lines are situated appropriately at intersections and at peak times during the day a traffic officer

often helps manage circulation. Signal priority treatments or other traffic modifications were not deemed necessary for Harrison by stakeholders.

The primary issue raised by Harrison representatives was the competition for space at bus stops. NJ Transit uses articulated buses on some of its services, which are not able to pull completely into bus stops. When the rear of a bus juts out into the one available traffic lane, traffic flow is impeded for following vehicles.

Limited regional service is operated through Harrison by De Camp and two private carriers operate routes to Atlantic City, however no concerns were raised about these buses given their limited frequency.

A request was made that NJ Transit consider using smaller buses in Harrison. At the same time, Harrison officials noted that lengthening bus stops to accommodate buses is unlikely to receive support in the town, as extending bus stops would require the removal of metered parking spaces, an important source of revenue for the town.

Town of Kearny

Transit service in the Town of Kearny is similar to that in neighboring Harrison, and not surprisingly the issues noted during stakeholder interviews were similar as well. Kearny Avenue is a primary thoroughfare for transit in Kearny, and the focus of most comments from the Traffic Bureau of the Kearny Police Department.

Despite there only being three or four official bus stops along Kearny Avenue, it was noted that buses frequently stop at any and all intersections to pick up and discharge passengers. Excessive stops lead to both increased congestion in the town as well as decreased efficiency for the transit operator.

As with other municipalities, Kearny's traffic officers noted problems with buses that do not pull completely into bus stops to pick up passengers. In some cases, bus stops overlap with metered parking spaces. The intersection of Kearny Avenue and Midland Avenue was mentioned specifically as an area with safety issues. The traffic officers interviewed indicated that many conflicts involving buses also involve pedestrians, and the increased traffic to local banks along Kearny Avenue on Thursdays and Fridays sees more accidents.

Town of Secaucus

The Town of Secaucus sits at a crossroads of several transportation corridors and represents a link between Hudson and Bergen Counties. Bus service in the town focuses primarily on the Harmon Cove area, which hosts a variety of commercial and light industrial uses as well as some residential development. This area is a destination for many Hudson County and New York City residents who work in the warehouse and distribution centers as well as retail and commercial operations. Conversely, many of the residents of Harmon Cove commute to New York City by bus. The opening of the Secaucus Junction rail transfer facility has increased mobility options in Secaucus in recent years.

Representatives from the Town of Secaucus generally expressed satisfaction with current bus services and circulation in the municipality. Congestion is not a major issue, and a variety of transit options exist between NJ Transit and several small shuttle operations. A priority for the Town of Secaucus is to ensure continued growth and use of the Secaucus Junction facility as a regional, intermodal transportation hub.

Union City

Union City is the most densely populated municipality in the region, and a core area for a large portion of Hudson County's transit network. The north/south corridors of JF Kennedy Boulevard West, Bergenline Avenue, New York Avenue, Park Avenue, and JF Kennedy Boulevard East (aka Boulevard East) all feature heavy transit volumes throughout the day. All of these routes cross the I-495 corridor leading east to the Lincoln Tunnel, providing numerous transfer possibilities and the resulting traffic congestion. In addition to the myriad routes operated by fixed route carriers such as NJ Transit, Union City is also a primary area for jitney van services.

The study team met with representatives from the Urban Enterprise Zone (UEZ) and the Community Development Agency in Union City to gain perspective on transit and traffic issues in the municipality. The UEZ covers the heart of the city's transit network and takes an active interest in the effects (positive and negative) of local bus and jitney operations.

Simply put, gridlock frequently occurs on the I-495 service roads (30th and 31st Streets) during the peak periods, particularly the morning peak. Buses and trucks frequently get stuck in intersections along these streets, blocking traffic flow. Union City would stand to benefit from an aggressive "don't block the box" enforcement campaign to keep busy intersections clear.

Transit operators in Union City also have to contend with relatively short bus stop spaces, which are often blocked by parked cars. Stakeholders noted problem areas such as 37th Street and Bergenline Avenue for inadequately sized bus stops. City blocks are short in these areas, thus the competition for space is evident. The heavy, de-facto transfer area in front of the Union City post office (30th Street between New York and Palisade Avenues) was cited as dangerous for both vehicular traffic and pedestrians, as was 48th Street and Bergenline Avenue, where NJ Transit's Hudson-Bergen Light Rail station is located.

The various jitney van services operated in and through Union City are deemed a major concern by local officials. While jitneys clearly serve a growing market, the lack of oversight and regulation of the companies' operations creates problems both in traffic congestion and public safety. Corridors such as Bergenline Avenue are heavily congested by regular traffic, fixed route buses, and jitney vans.

Compounding the problem of jitneys stopping at any location to pick up and discharge passengers (as opposed to designated bus stops) is the fact that the competing companies use aggressive tactics to solicit passengers and thwart other van drivers in the process. Vans frequently cut each other off in traffic, drive slowly to both look for potential customers and slow down traffic behind, and make their stops in travel lanes as opposed to pulling to the curb at

marked bus stops. Much of this jockeying for position occurs near the 48th Street light rail station on Bergenline Avenue and on New York Avenue near 1st Street and the border between Union City and Jersey City.

Finally, a concern was voiced about public health implications of poorly managed jitney services. The cleanliness of vehicles was cited as a major concern for some (not all) operators, as well as the physical condition of vehicles and potential safety hazards that may exist as a result of poor maintenance.

A suggestion was offered that specific avenues be designated for jitney traffic, such as Bergenline Avenue and Kennedy Boulevard. Narrowing the geographic scope of van operations could help local officials better monitor and enforce traffic laws. In fact, enforcement is more often than not cited as the primary tool necessary to improve the flow of traffic and safety of jitney operations in these densely populated corridors. The question remains how much time and manpower local law enforcement can devote to effectively monitoring jitney and transit operations.

Town of North Bergen

North Bergen marks the entry point to Hudson County of the extensive commuter bus network serving New York City. The town also hosts a number of local fixed route bus services and is a critical location in the network of jitney services operating in and through Hudson County. The Nungessers area at the town's northern end functions as a de-factor terminus for many local bus routes, a layover area for buses on a variety of services, and the junction of Boulevard East and Bergenline Avenue, two of the most heavily used transit corridors in the county.

Representatives from North Bergen reiterated concerns voiced by other municipalities about the expanding jitney bus network and the benefits and challenges associated with these services. The town recognizes the importance of jitneys as a key component of the public transit network, but remains concerned about safety and operational issues stemming from the over-supply of service on corridors such as Bergenline Avenue and Boulevard East. North Bergen representatives indicated that the town is supportive of county initiatives to regulate jitneys with safety as the primary motivation rather than the elimination of services.

Town of West New York

West New York hosts a considerable amount of transit traffic, primarily on the north/south corridors of Kennedy Boulevard West, Bergenline Avenue, and Boulevard East. Many of the same issues that arise in Union City apply to West New York, particularly concerning the busy corridor of Bergenline Avenue. The study team was given a tour of the town by the West New York Police Department's Traffic Division to discuss specific transit concerns.

Like Union City and other North Hudson municipalities, many city blocks in West New York are relatively small and do not offer much space for bus stops on the north/south corridors. Along Bergenline Avenue, bus stops are frequently too small, overlap crosswalks, and are situated on the near corner (i.e., before the traffic light) at busy intersections. All of these factors make it

difficult (or impossible) for bus drivers to fully pull out of the travel lane and into a marked bus stop to pick up and discharge passengers.

West New York recently moved several near-side bus stops to the far side of the intersection and the result has been positive. This is particularly true on Bergenline Avenue at 49th Street (northbound), near the NJ Transit light rail station. Local traffic has increased since the opening of the light rail system and West New York is working to improve traffic flow.

It was also noted that there are too many bus stops on Bergenline Avenue, which again decreases transit efficiency and leads to excess traffic congestion. For example, there are three (northbound and southbound) bus stops on Bergenline between 59th and 60th Streets. The bus stops at 62nd and 64th Streets and Bergenline Avenue are too small for a bus to fit into (even if unobstructed). The first eastbound bus stop on 60th Street (east of Bergenline Avenue) should be extended to ensure that articulated buses can clear the intersection when making their stop.

Across 60th Street east/westbound, there are also too many bus stops and they are inadequately striped, meaning that motorists who park along the street do not know the limit of the bus stop and where they are not permitted to park. This lack of adequate striping and information, which also applies to the proper placement of bus stop signs, is a problem throughout the town. Bus stop signs should more clearly indicate where parking is prohibited.

West New York will at times post a traffic officer at 60th Street and Bergenline to improve traffic flow, which involves preventing left turns from southbound Bergenline onto 60th Street. All along Bergenline Avenue, the north/south blocks are short and there are many signals and bus stops, which combined lead to persistent traffic conflicts and congestion.

Jitney services are of concern to West New York as well, in the same manner as in Union City, Weehawken, and other municipalities. Aggressive driving, disregard for posted bus stop signs, and potentially unsafe vehicles were once more cited by West New York police as primary issues with jitneys. From time to time, traffic officers will focus their attention on jitney vans and conduct more rigorous enforcement of various violations, but as with other towns, manpower is limited and these efforts are not consistent.

Town of Guttenberg

The Town of Guttenberg is the second smallest municipality in Hudson County, situated along the Hudson River between West New York and North Bergen. Due to the town's layout, a rectangle oriented more or less east-west, the transit routes that traverse the town do so for a span of only three and a half city blocks north to south. Heavy transit corridors through Guttenberg include River Road, Boulevard East, Park Avenue, Bergenline Avenue, and JF Kennedy Boulevard.

The four transit corridors pass through Guttenberg: River Road, Boulevard East, Park Avenue, and Kennedy Boulevard. Guttenberg's representative during stakeholder discussions noted that of these five corridors, Bergenline Avenue is not seen as troublesome because, unlike further

south in West New York and Union City, the road is wider and not prone to severe congestion. Nor is Kennedy Boulevard considered a problematic corridor from a transit perspective.

Park Avenue is a narrow street and buses frequently have difficulty pulling fully into bus stops when cars are parked in the stops. When a bus is unable to move completely out of the travel lane, following cars are unable to pass and must wait while passengers board or exit the bus. Along Boulevard East, bus stops are generally kept clear and traffic congestion is not seen as significant. Only when multiple buses arrive at the same stop do notable traffic conflicts arise.

When asked about the presence of jitney van operations in Guttenberg, the town representative noted that jitneys are frequently a contributor to traffic congestion. Guttenberg residents do use jitney services, typically those operating along Boulevard East and through the Lincoln Tunnel to Midtown Manhattan. Slow driving on the part of jitney drivers as they look for potential passengers can have a disruptive effect on local traffic flow and may also interfere with fixed route transit operators such as NJ Transit, which operates extensively on Boulevard East and the other north/south corridors.

From a traffic and access perspective, the east and west halves of Guttenberg are not well connected. River Road is at a substantially lower elevation than Boulevard East and the rest of the town, and Ferry Road is the only connection between the two. Conditions are similar in neighboring West New York and North Bergen, and Guttenberg recognizes that a balance must be struck concerning traffic patterns and which municipality is to accommodate the majority of the traffic flow.

Specifically, from a safety perspective, the intersection of Boulevard East, Ferry Road, and Bellevue Avenue was cited as a concern. A southbound, far-side bus stop on Boulevard East serves senior citizen housing at the corner of Boulevard East and Bellevue Avenue. Crossing Boulevard East from the northbound (east) side, however, is difficult and at times dangers due to traffic climbing the hill from Ferry Road. There is no point in the signal cycle during which pedestrians crossing Boulevard East are completely sheltered from vehicles. Furthermore, the somewhat diagonal configuration of the crosswalk makes the movement longer than a typical street crossing. An easier, safer way to cross from one side of Boulevard East to the other (i.e., crossing between northbound and southbound bus stops) would be of great benefit to the community.

Jersey City

As the largest municipality in Hudson County, Jersey City also features a wide range of development density and character, from the busy waterfront business district to neighborhoods on the West Side. Journal Square is a major hub for local and regional fixed route transit (and jitney services), as are Exchange Place and the Newport/Pavonia area.

The Jersey City Police Department provided the study team with a list of areas highlighted as problematic from transit, traffic and safety perspectives.

1. Westside Avenue – North and southbound lanes of traffic

Narrow width of Westside Avenue and problems with vehicles parked in bus stops increase risk of accidents involving transit and jitney buses.

2. Duncan Avenue and Westside Avenue

This is the main intersection in which transit buses have hard time turning corners because of cars parked on corners and conflicts with the opposing lane of traffic.

3. Communipaw Avenue and Westside Avenue

Main intersection where buses have difficulty making the turns due to cars parked on Westside Avenue and with the opposing lane of traffic in transit.

4. Communipaw Avenue and Kennedy Boulevard

Jitney buses cut through gas stations to avoid red lights. This increases the risk potential for both pedestrian and vehicular accidents.

5. Newark Avenue (Downtown Area)

The narrowness of the road causes traffic congestion at the Coles Street and Monmouth Avenue intersections. In addition, Jitney buses make random stops on Newark Avenue to pick up passengers. More visible marking on Newark Avenue is also recommended.

6. Newport Parkway and Sixth Street

Jitney buses stay idle and wait at this location for passengers at the Newport Mall. This creates traffic congestion and increases the risks for accidents.

7. Journal Square

Jitney buses are prohibited from dropping off passengers directly within the station. As a result, jitneys drop off on Pavonia Avenue and Kennedy Boulevard. This creates a problem for transit buses accessing the station and leads to other vehicular and pedestrian traffic jams.

8. Central Avenue and Franklin Street

Transit buses have a difficult time turning at this intersection because of congestion with vehicular traffic on Central Avenue and cars parked in prohibited areas.

9. Kennedy Boulevard and Van Winkle Avenue

Jitney buses remain idle and prevent transit buses from pulling into this designated bus stop. As a result, this negatively impacts vehicular traffic and decreases visibility for pedestrians and motorists while crossing and driving northbound on Kennedy Boulevard.

10. Palisades Avenue and Congress Street

Transit buses have a difficult time turning the corner because of conflicts with the opposing lane of traffic and cars parked at the intersection.

In addition to these specific locations, the Jersey City Police Department also noted that it engaged in an enforcement crackdown on illegal or non-compliant jitney operations in 2002, alongside the New Jersey Department of Transportation (NJDOT) and the Hudson County Prosecutor's Office. Numerous summonses were issued for moving and non-moving violations, including picking up and dropping off passengers at unauthorized locations, driving on residential streets to avoid traffic, reckless driving, equipment violations, and improper documentation of vehicles and drivers.

More recently, in August 2006, the Hudson County Prosecutor (with the County Sheriff's Office and NJDOT) conducted spot inspections in Jersey City of 15 commuter vans, eight of which were taken out of service due to violations including inoperable emergency doors and fake driver insurance cards. Inspections such as this are been conducted several times each year in different locations throughout the county.

Newport

The study team also met with a representative of the Newport Associates Development Company to discuss specific concerns in this growing business and residential area of Jersey City. The primary concern in Newport echoed comments from the Jersey City Police Department pertaining to jitney van layovers and operations at the south side of the Newport Mall. Some 20 to 30 different operators have been observed at Newport, most now laying over and picking up passengers at a de-factor location on Sixth Street.

The developer tried unsuccessfully to foster cooperation among the different operators for transfers, parking, and service to the mall in general when this pattern first began to emerge. Jitney vans operate locally within Jersey City (and to Journal Square), as well as to Staten Island and Manhattan, among other areas.

The primary recommendation offered was to work with Jersey City to widen the street to create a jitney loading/unloading lane at the mall and provide waiting shelters for passengers.

Concerning fixed route transit, problems do occur at the southbound bus stop on Washington Avenue near the PATH station, typically due to a lack of enforcement of vehicles blocking the stop. Relatively few jitneys operate on Washington Boulevard, however traditional transit buses can get backed up or conflict with other traffic when stops are not clear.

Township of Weehawken

The Township of Weehawken's location puts it squarely in the mix of local transit and jitney travel as well as the heavy volumes of traffic to and from Manhattan via the Lincoln Tunnel and I-495. Despite this incredible traffic flow through the and around the township, the police department indicated that no major traffic problems exist.

The only specific location mentioned as a persistent problem was on Willow Avenue northbound at 19th Street. At this location, the left lane is designated for through traffic while the right two lanes of Willow are bound for the Lincoln Tunnel. Buses and jitneys frequently block the left through lane as they attempt to enter the right two lanes for the tunnel. This is primarily an enforcement issue for the local police, as are most intersections in the vicinity of the tunnel entrance area.

Other high transit volume corridors such as Boulevard East are generally considered to be under control, given the constant of traffic congestion in the area, particularly during peak periods.

As with its neighboring communities, jitney vans present an area of great concern to Weehawken officials. The Township fully supports efforts by the Hudson County Prosecutor, NJDOT and the Port Authority of New York and New Jersey (Port Authority) to conduct random vehicle/driver inspections of jitney vehicles in Weehawken. In the summer of 2006 a random inspection site was set up on lower Willow Avenue, resulting in roughly 15 vehicles being impounded.

Weehawken Police echoed the concerns of other municipalities such as safety (of jitney passengers and other motorists) and public health. For the local officials, manpower remains the primary obstacle to more frequent and consistent inspections and oversight.

City of Hoboken

The bulk of Hoboken's transit activity centers around the Hoboken Terminal and PATH station at the city's southeastern corner. The terminal is a major transit hub, connecting bus service with NJ Transit rail and PATH rail services to New York and northern New Jersey. The primary transit corridors are Washington Avenue, Willow Avenue, and Observer Highway.

The Hoboken Police Department's Traffic Enforcement Bureau indicated that the flow of bus traffic into and out of the Hoboken Terminal is subject to numerous conflicts. A number of intersections in the immediate vicinity are controlled by stop signs rather than signals, which creates difficult operating conditions for buses. In particular, it was suggested that traffic signals are needed at the intersections of Hudson and Newark Streets, at River Street and Newark Street, and at the exit of the transit hub onto Hudson Place, where stop signs alone are insufficient.

Other locations of traffic conflicts include the turn (both directions) from Washington Street to Observer Highway, where space is limited and buses overshooting the turn are often involved in accidents with traffic in the opposing lane. Additionally, the movement from Patterson Avenue to Observer Highway is difficult due to traffic backing up. Because of one-way street configurations, southbound buses must make a left turn from Patterson Avenue to Observer

Highway, a quick right turn onto Monroe Street, a left turn onto Newark Street, and another right back onto Observer Highway to continue toward the terminal.

Finally, while transit and traffic flow is generally smooth in Willow Avenue, the road narrows south of 13th Street, at which point any double-parked cars can effectively shut down travel or at least delay transit and other vehicular traffic.

Jitney services, prevalent in neighboring Weehawken, Union City and Jersey City, are not considered a problem in Hoboken.

City of Bayonne

The City of Bayonne is the southern-most municipality in Hudson County, bordering Jersey City to the north and surrounded by water on the other three sides. Linear in nature, Bayonne has three primary transit corridors: JF Kennedy Boulevard on the western side, Avenue C, and Broadway. Two of the three corridors connect Bayonne with Jersey City. The Hudson Bergen Light Rail system also extends south from Jersey City to Bayonne, currently terminating at 22nd Street with a proposed extension to 8th Street.

Bayonne's City Planner met with the study team to discuss the role of transit in the city and the priorities for improvement in each corridor. The majority of transit usage in Bayonne is for employment trips, either locally/regionally within Hudson County or via express bus service to Manhattan, and shopping trips locally (rarely beyond Jersey City). Perhaps due mostly to demographics and local development patterns, jitney services are rare or nonexistent in Bayonne and are not considered an issue.

The Kennedy Boulevard corridor is a key connection between Bayonne and Jersey City, and transit service is provided by a private operator, Coach USA. Many of the city's concerns relate to a public perception that private carrier operations are not of the same quality as the service provided by NJ Transit. Headways are seen as inadequate for the corridor and travel times are quite long for trips to Jersey City. Amenities such as bus shelters are not provided, although it is worth noting that the city administration has not generally been supportive of allowing shelters.

Among physical improvements that could be made, adequate bus pull offs are necessary, although there is a competition for space and to date the priority has been given to metered parking spaces. The coordination of traffic signal timing appears minimal, which is seen to be a contributor to the slow travel times in the area in light of the relatively limited traffic congestion. Signal pre-emption at key choke points, which occur at several major east/west streets (W. 5th, 21st, 22nd, 30th, 32nd, etc.), is recommended to help improve the north/south transit efficiency.

The Avenue C and Broadway corridors are both operated by NJ Transit, and Broadway is also served by the Broadway Bus Owners. The Broadway route serves the core commercial area of Bayonne, while Avenue C serves an important peak period commuter market to New York. Neither corridor warrants major changes other than possible signal timing improvements and passenger amenities where feasible. The City of Bayonne may be amenable to bus shelters and some amenities on Broadway and Avenue C.

Hudson County Prosecutor's Office

As one of the leaders of efforts to monitor jitney services and crack down on violations, the Hudson County Prosecutor's Office is taking an increasing role in assisting local municipalities in the county with this challenge. The involvement has grown out of interest by the Insurance Fraud Unit in van operators and the use of falsified insurance documents.

Larger jitney fleet operators often hire drivers in owner/operator capacity, meaning drivers provide their own vehicles or perhaps lease them from parent companies, and typically purchase their insurance through the fleet company. In a number of cases, the fleet companies have provided false documents to drivers, who ultimately are left paying the price when caught in an enforcement crackdown. Conversely, motorists involved in accidents with jitney vans are also cheated out of insurance settlements when the jitney operator does not have the proper coverage.

The Hudson County Prosecutor's Office identifies the primary concerns as the over-abundance of jitneys on the road, the lack of organization of their services, and the lack of coordinated enforcement between municipalities. NJDOT conducts enforcement efforts at operators' garages, as well as on the street in cooperation with local officials, as has been noted by local police departments interviewed during this study outreach process.

New Jersey Meadowlands Commission

The study team met with the New Jersey Meadowlands Commission (NJMC) to discuss general planning issues in western Hudson County and what issues may exist with transit and traffic flow. The NJMC is responsible for planning and development review across the multi-jurisdictional Meadowlands area. Densities of development are lower in the western area of the county and municipalities such as Secaucus.

No major circulation issues were highlighted during the interview process, although it was noted that development is continuing in the Harmon Meadow and Harmon Cove (Secaucus) areas. These developments are served by transit, along with NJ Transit's Secaucus Junction rail transfer center, and host a variety of retail, warehouse/light industrial, office, and residential complexes. Transit service links these areas with other Hudson County municipalities as well as Manhattan. Redevelopment is also planned in Kearny.

NJMC is currently involved with developers and Meadowlink to develop local bus shuttle routes to connect the various developments, and some studies of pedestrian and safety issues have been undertaken in the process. One of NJMC's goals is a coordinated, consolidated shuttle service around Secaucus that would be funded by local developments. Meadowlink currently operates shuttles to Secaucus Junction. Jitney van services are not considered a problem in western Hudson County, where the focus is on traditional fixed route transit (operated primarily by NJ Transit).

Public Drop-In Sessions

A series of six public drop-in sessions were conducted at major transit locations in Hudson County to solicit feedback from bus riders and transit users. At each location, several members of the study team spent up to four hours interviewing transit users at bus stops or facilities. Members of the public were encouraged to provide any feedback regarding traffic, transit and safety concerns in the county. The study team interviewed customers in both English and Spanish. In total, more than 450 transit users provided feedback to the study team during this outreach effort.

Drop-in sessions were conducted at the following locations:

- Journal Square Transportation Center
- Exchange Place (Montgomery Street bus stops)
- Grove Street PATH station
- Bergenline Avenue Hudson Bergen Light Rail station
- 30th Street/31st Street and Bergenline Avenue
- Hudson County Administration Building (Newark Avenue)

To guide the development of infrastructure recommendations and identify specific areas of concern, two primary questions were asked of participants: where are buses most prone to delays due to traffic congestion, and do these delays occur consistently, during peak periods, or only occasionally? Additionally, transit users were asked if they use jitney services, and if so, what are the primary advantages or disadvantages of jitneys relative to traditional fixed route bus service.

Key Themes

In addition to the specific locations and issues that informed the development of infrastructure recommendations discussed in Chapter 7, a number of consistent themes emerged during the sessions.

- Transit corridors such as Bergenline Avenue (south of 49th Street) in Union City and Newark Avenue in Jersey City are frequently congested due to narrow roadways, double-parked cars or delivery trucks, and traffic conflicts with jitneys and other vehicles.
- Intersections that prove troublesome for transit operations are frequently a concern for pedestrians as well.
- Customers interviewed frequently expressed concerns about the safety of jitney vehicles and operators.
- Many passengers choose to ride jitneys because they are more frequent and less expensive, even if fixed route bus carriers such as NJ Transit are viewed more favorably from customer service and safety perspectives.
- Some difficulties could be improved through operational changes, e.g., buses pulling entirely into bus stops when possible to give passengers better access to curb and reduce traffic congestion due to vehicles blocked behind the bus.
- Some corridors have too many bus stops, negatively affecting travel times.

Public Open House

A Public Open House for the Hudson County Bus Circulation and Infrastructure Study took place on Tuesday, July 11th from 4 PM to 8 PM at Jose Marti Middle School in Union City, NJ.

Hudson County's Director of the Division of Planning and the study's Project Manager were present at the meeting. Representatives from the study team of Urbitran Associates, Eng-Wong, Taub Associates, and Howard/Stein-Hudson Associates were also present to facilitate the Open House.

Attendees were asked to complete an initial survey which asked about modes of transportation, major travel routes, transfer locations, and the positive aspects of transit in Hudson County. Attendees then had the opportunity to interact with the study team and review material at a series of board stations covering the following topics:

- Study overview
- Public involvement
- Study timeline
- Study area
- Current conditions
- Issues and concerns
- Potential improvements

Members of the study team conducted one-on-one interviews with each participant to gain detailed insight into perceived problems and concerns with the bus and jitney system in Hudson County.

The following is a summary of survey responses, in-depth interviews, and comments from the Open House participants.

Modes of Transportation Normally Used

The most common mode of transportation that open house participants used in Hudson County was bus service.

Mode	Responses
Bus	7
Jitney	4
Light rail	5
PATH	4
Commuter rail	3
Ferry	1
Taxi	2
Car	4

Most Commonly Used Routes

Attendees noted several transit routes that they commonly use including:

Bus & Jitney Routes

- Palisades Avenue to Journal Square
- New York Avenue
- Summit Avenue
- NJ Transit #80 bus
- NJ Transit #84 bus
- NJ Transit #88 bus
- Coach USA #10 bus

Light Rail

- West Side Avenue
- Tonnele Avenue
- Downtown Jersey City

Other Routes

- PATH to Manhattan
- NJ Transit Northeast Corridor line

Transfers

Based on the initial survey responses by open house participants, three (3) participants frequently transfer between buses and other transit modes. The following were mentioned as major transfer points:

- 32nd Street
- 8th Street
- Journal Square
- Exchange Place
- Hoboken Terminal
- Grove Street

Transit Service to Hudson County Plaza

- Two (2) attendees use services that will be relocating to the new County Administration Building. Both are clients, or represent clients, of the Department of Family Services and rely on walking or NJ Transit to get to the Department.

Existing Benefits to Mass Transit in Hudson County

Attendees noted several things that work well about the current transit system in Hudson County:

- Frequent, reliable, and far-reaching mass transit with many routes across the county in a variety of directions.

- Valuable online bus route information consisting of route maps and bus schedules from NJ Transit.
- Readily available, cheap, and convenient jitney services that offer a more economical option than bus service on many routes.

Concerns Regarding Existing Bus Transit in Hudson County

- Traffic congestion that negatively impacts travel times and on-time performance.
- Lack of centralized maps or service information for jitneys in Hudson County.
- Lack of clear signage indicating bus routes at major bus stops.
- Inadequate driver training on ADA regulations and sensitivity training for working with persons with disabilities.
- Infrequent service on certain NJ Transit bus routes making them non-competitive with jitneys.

Major Concerns

Below are the major concerns with the bus and jitney services in Hudson County that were explained during individual interviews.

Travel Time / Traffic

Concern:

- Interviewees noted that traffic congestion increases travel times across Hudson County. A journey of only a few miles can take a significant amount of time.
- Respondents noted that jitneys also suffer from poor travel time due to their numerous stops.

Possible Solution:

- One potential solution that a respondent offered was to replace a travel lane or parking lane with a bus lane to promote more efficient bus travel.
- One respondent felt that on-time performance of buses would improve by eliminating jitney service.

Jitney Service

Concern:

- A variety of independent companies operate jitney service throughout Hudson County with no formal stops or timetables. However, interviewees who use jitneys were generally aware of routes and wait times.
- Most felt jitneys were crowded because they offer convenient alternatives to buses that run more frequently through more neighborhoods and are cheaper than NJ Transit bus service.
- Some also noted that this service can become counterproductive by taking an undetermined amount of time to reach a particular destination. Also, there are no stopping indicators, and riders must inform the driver verbally of any stops they would like to make.

- Additionally, the informality of jitney service can be potentially hazardous, as jitneys are not officially regulated.

Possible Solutions:

- Respondents pointed out the necessity of centralized jitney route and time information in order for jitneys to become more efficient and useful. Attendees thought this information could include route information for NJ Transit and other independent bus companies as well. Kiosks at central locations such as Journal Square and dedicated pages on central websites were suggested as ways to ensure the public has access to this information.
- Interviewees felt safety concerns could be addressed through initiating safety checks for jitneys and requiring jitney drivers to post their photo identification cards while on duty.
- Some were extremely happy with jitney service and felt it provides a good alternative to buses that can maneuver better through traffic, are cheaper, and have shorter wait times for riders.
- Others believe that improved bus service from NJ Transit and other companies such as CoachUSA would be sufficient for meeting the transit needs of Hudson County.

ADA Compliance

Concerns:

- Not all NJ Transit bus drivers comply with or have adequate knowledge of ADA regulations. A respondent noted that seeing-eye dogs are often not allowed on buses and that buses do not pull up to the curb properly to allow for wheelchair access.

Possible Solutions:

- Better training for bus drivers on ADA procedures and requirements for jitney operators to comply with ADA regulations are needed.

Policy

Concerns:

- Many interviewees felt that bus service in Hudson County was too expensive and were concerned about constantly increasing fares. One noted that lack of funding for mass transit in New Jersey forces NJ Transit to raise its fares, which, in turn, provides an incentive for riders to uses jitneys, which deprives NJ Transit of needed fare box revenue.

Possible Solutions:

- A respondent thought that promoting transit usage could be accomplished by keeping transit taxes constant, creating bus lanes, developing bike paths, and pursuing other policy-based incentives to bring active change to mass transit use.

Key Corridors Mentioned

- Palisades Ave to Central Ave - too many jitneys along the corridor.
- Central Ave – bus service is needed to open up access to businesses in downtown Jersey City and the Newport area.
- Journal Square – frequently overcrowded.
- Bergenline Avenue and JFK Boulevard intersection – overcrowded and possibly dangerous area.

Comparison of Bus and Jitney Services

Open House attendees were asked to indicate which mode offered advantages in the following areas:

Which mode offers:	Bus	Jitney	Same
Shorter travel times	xxx	xx	x
More service	x	xxxxx	
Better safety	xxxxx		x
Better customer service	xxxx		x
Lower fares		xxxxxx	
More comfort	xxxxx		x
More reliability	x	xxxx	x
Better convenience		xxxxx	x
Better service hours		xxxxx	x

x = participant response

Feedback / Recommendations on Bus Study Presentation:

- Signal prioritization is not good for the visually impaired, as any disruption in signal timing could create a safety hazard.
- It may be worthwhile to re-route certain jitney services to alternate routes to reduce their excessiveness on some corridors and increase them on others.
- Create a kiosk and/or website with consolidated information regarding all jitney services schedules.
- Impose larger fines on people who park in bus lanes and at bus stops.
- The transit system needs to be more inclusive of people with disabilities, and employ more rigorous ADA regulation.

CHAPTER 5 JITNEY SERVICE EVALUATION AND POLICY RECOMMENDATIONS

This section provides an assessment of jitney bus operations serving the Hudson County area and their impact on passenger service, fixed route bus operations, passenger and vehicular safety, and traffic congestion, in addition to policy considerations and recommendations for the establishment of a full-time oversight body and ordinance to improve licensing, inspections, oversight and enforcement of operations.

Data Collection – Jitney Operations

Data collection for the study was conducted along major jitney/bus routes including the corridors of JF Kennedy Boulevard, 30th & 31st Streets, Bergenline Avenue, and Newark Avenue. Data collection was conducted for both AM and PM peak periods and provides detailed information regarding the overall characteristics of bus service including an inventory of jitney companies operating in the region, the number of jitney buses as compared to total bus volumes, the percentages of all transit vehicles that are jitneys, and an estimate of the number of passengers served by jitneys. A map of the corridors covered by the study is shown in Figure 5-1.

Field data collection varied depending on the problems or issues existing at each location (safety, congestion, operations, etc.). In general, manual sample counts and observations of physical inventory were conducted for each area during either the AM or PM peak periods including videotaping and photographing at some locations. Additional data including traffic counts signal timings and geometric data pertaining to the study were acquired from both the Hudson County Office of the County Engineer, and the Jersey City Division of Traffic and Transportation.

Figure 5-1 – Jitney Count/Survey Locations

The results of the study indicate that jitney companies serve a significant number of passengers in the county, ranging from 200-800 passengers per hour along major routes to as high as 800-1,100 passengers per hour along other routes, and serving a total of about 3,000 passengers during each peak hour. Jitney buses serving these passengers make up about 50-75% of the total bus volume along the major corridors.

According to survey results, approximately 14 jitney companies are operating within Hudson County along the major transit corridors. Community Lines appears to operate the highest number of jitneys - about 60-65% of the total jitneys serving JF Kennedy Boulevard. The company also operates the largest share of jitneys along the 30th & 31st Street corridors - about 20-30% of all jitneys. Along both the Bergenline Avenue and Newark Avenue corridors, J&T Transit has the highest share with 30-35% of all jitneys. The distribution of the major jitney companies serving each corridor is illustrated in detailed graphs provided in Figures 5-2a and 5-2b.

Figure 5-2a
Jitney Companies Serving JFK Boulevard and 30th & 31st Streets

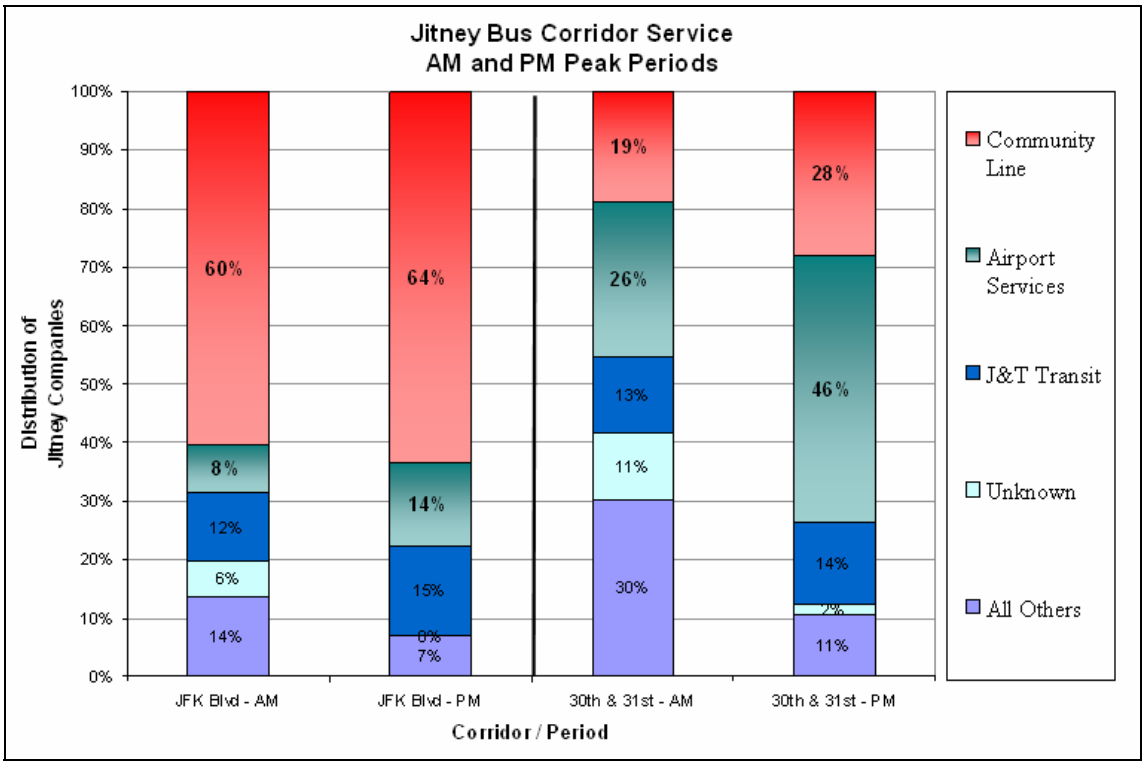
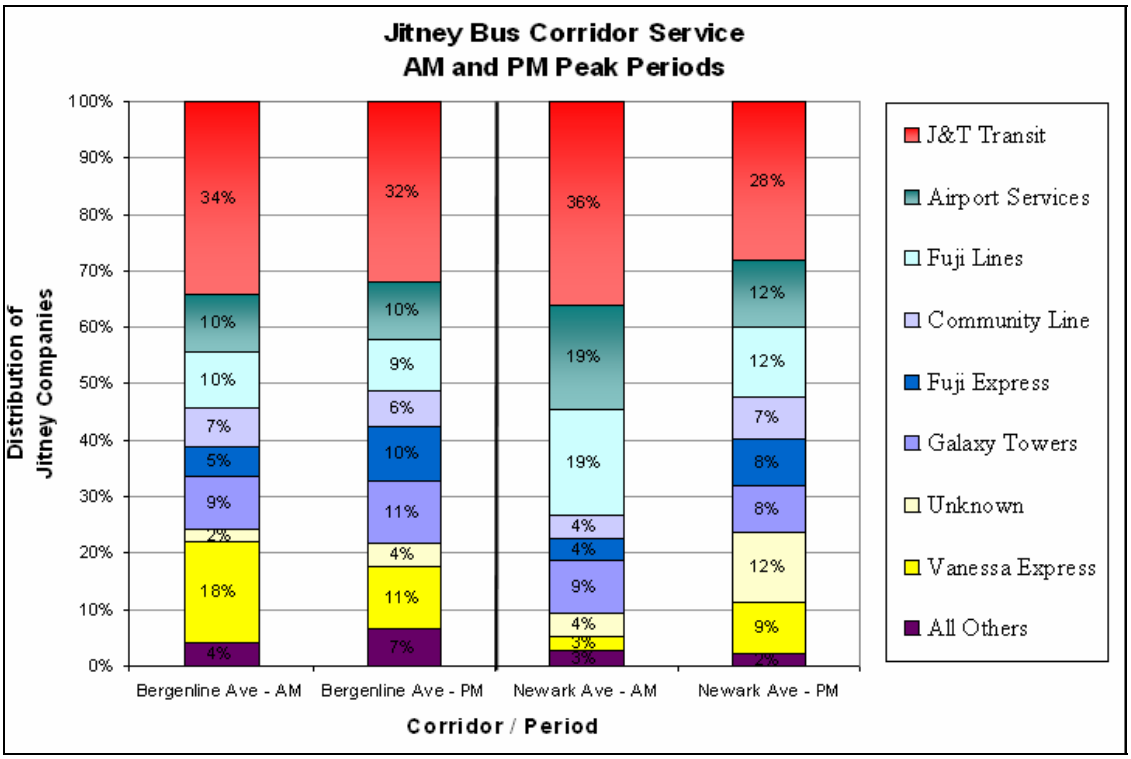


Figure 5-2b
Jitney Companies Serving Bergenline Avenue and Newark Avenue



The bus count summary revealed the jitney companies to have a significantly higher number of vehicles along the corridors as compared to transit buses with the exception of the 30th & 31st Streets corridor where the number of jitneys and transit buses are almost equal. The percentage of jitneys compared to the total number of buses ranges from 65 to 75%, except along the 30th & 31st Streets corridor. Graphical illustrations for bus volume and percentages are represented in Figures 5-3a and 5-3b, respectively.

Figure 5-3a – Bus Volumes

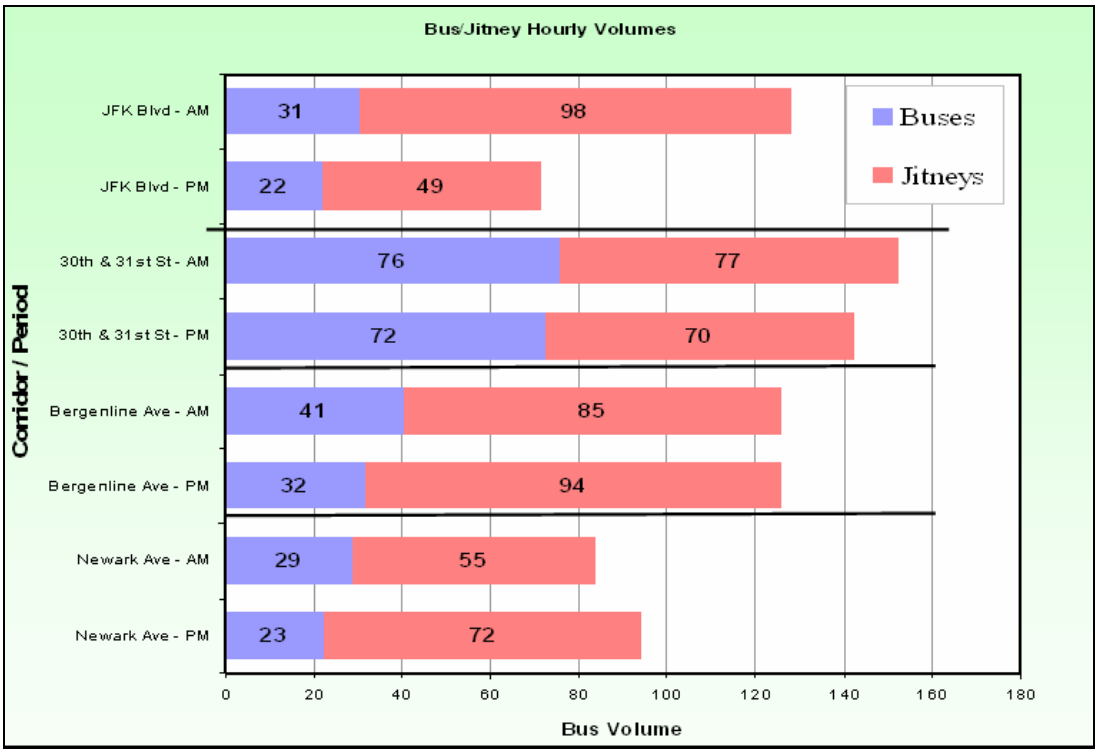
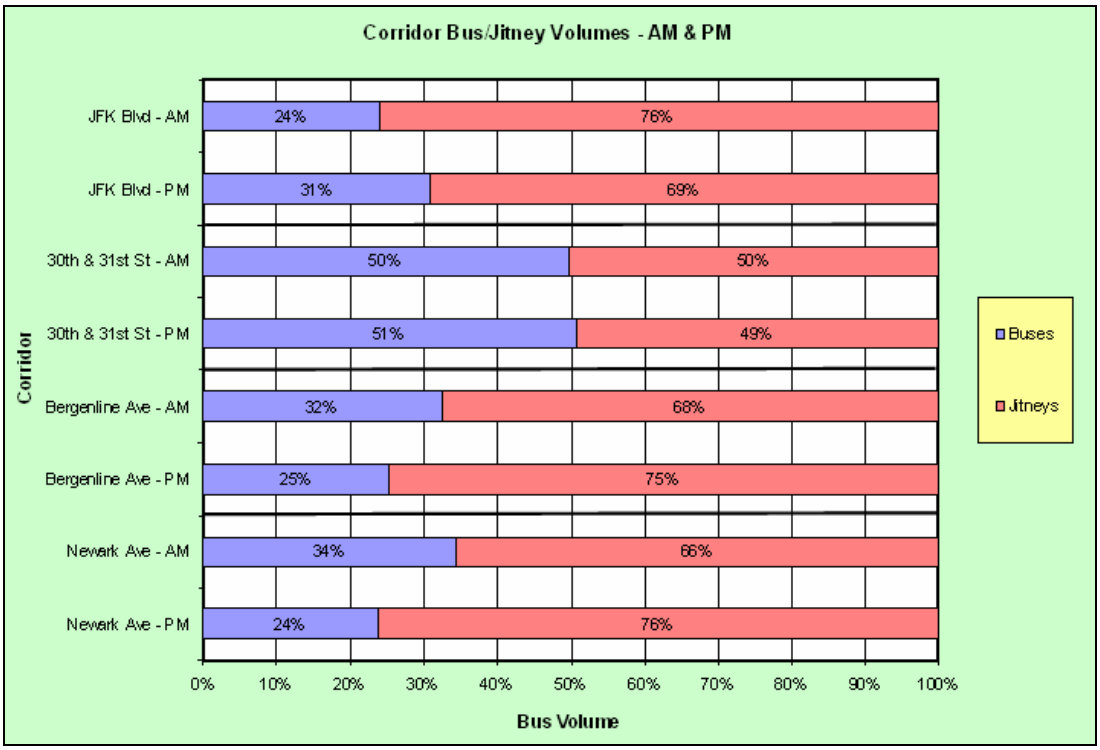


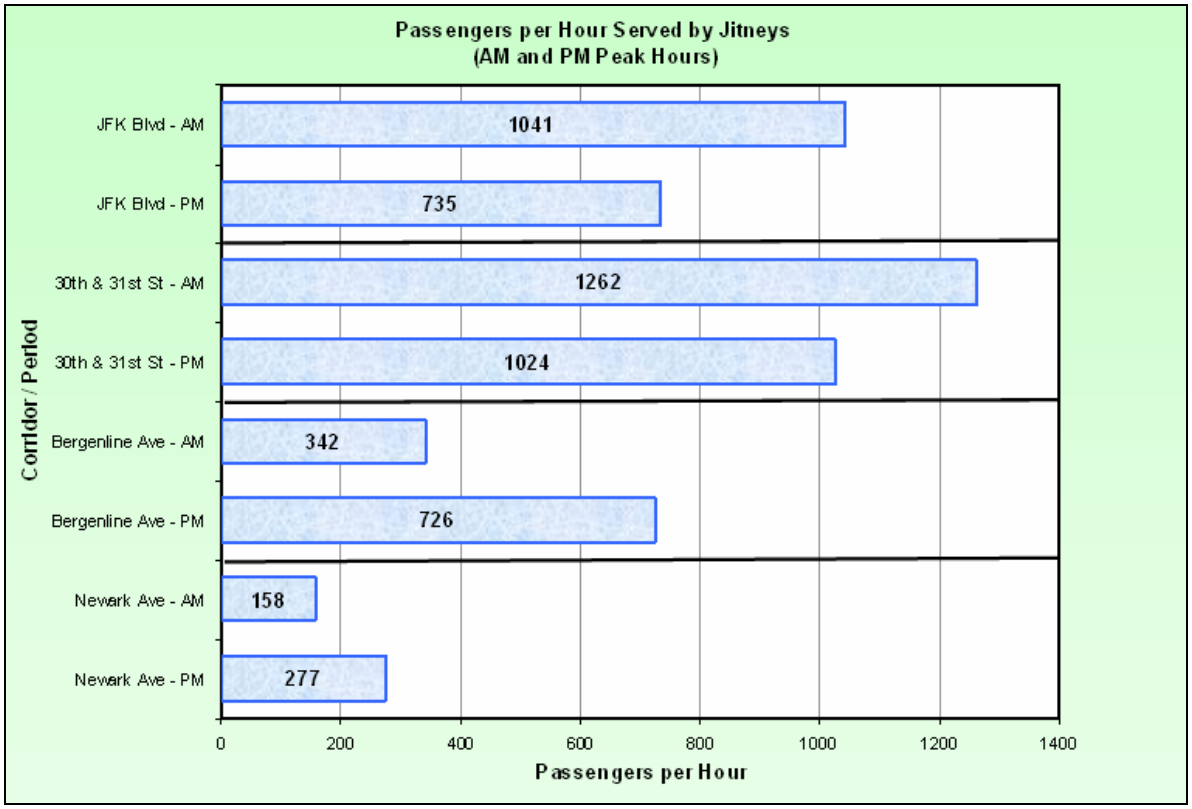
Figure 3b – Bus Percentages



The greater number of jitney vehicles on the road is not surprising, given the individual ownership or operations, the competition among drivers and companies, and the traditionally smaller vehicle size. Furthermore, whereas traditional bus service is constrained by a schedule and a specific operating route, jitneys operators are able to fill their vehicles with passengers then operate express to their destination. Transit buses are able to seat more passengers as well as accept more standees, requiring them to make frequent stops throughout the length of a route to pick up additional passengers, while also maintaining their schedule according to specific time points.

The conclusion of the passenger study indicates that jitney buses serve a significant number of passengers ranging from 200-800 passengers per hour on some major routes to as many as 800-1,100 passengers per hour along other routes. The estimated total number of passengers utilizing jitneys along the major corridors is about 3,000 during each peak hour. Figure 5-4 presents the summary graph.

Figure 5-4 – Estimated Number of Passengers Served by Jitneys



Open House attendees at the outset of this study were asked to indicate which mode (fixed route bus vs. jitney) offered advantages in areas such as travel time, frequency of service, cost, convenience, etc. Results indicated, as shown in the table below, that the choice to use jitney services generally stems from a desire for more frequent, available service. Fixed route bus service such as NJ Transit was generally seen as a safer alternative and one with better customer service and comfort.

At public drop-in sessions throughout the county, customers consistently echoed these sentiments. Even customers of NJ Transit or private fixed route operators noted that in times of inclement weather or limited time they would choose jitneys over the larger transit operators, even while acknowledging concerns about safety and comfort. To most customers, the existence of numerous jitney operators serving the same corridors was an insignificant detail. Whether jitney services are provided by one or several operators is insignificant, as jitney riders do not typically have loyalties to any one company.

Transit Users' Reasons for Choosing Buses vs. Jitneys

Advantage	Fixed Route Bus	Jitney	Same
Shorter travel times	xxx	xx	x
More service	x	xxxxx	
Better safety	xxxxx		x
Better customer service	xxxx		x
Lower fares		xxxxxx	
More comfort	xxxxx		x
More reliability	x	xxxx	x
Better convenience		xxxxx	x
Better service hours		xxxxx	x

x = participant response

CHAPTER 6 JITNEY REGULATION AND POLICY CONSIDERATIONS

In recent years, jitney services in Hudson County have grown from a niche market to a substantial component of the regional transit system. Jitney operators typically offer frequent, inexpensive service on corridors long-established by the fixed route bus operators such as NJ Transit, becoming increasingly competitive both with fixed route operators and with each other. Moreover, jitney drivers compete with each other for passengers, as most operate in the manner of taxi drivers, whereby vehicles are leased by drivers for a fee and the driver keeps cash fares as his or her income.

The field observations conducted as part of this study show the breadth of service in operation in Hudson County; no fewer than eight different jitney companies provide service along the Bergenline Avenue corridor, in addition to the service already provided by NJ Transit.

Jitney Issues

Over-Supply of Service

At the heart of the issue surrounding jitney services in the county is an over-supply of service, particularly along corridors such as Bergenline Avenue, JFK Boulevard, and Newark Avenue. While the riding public may see a benefit from frequent service, the competition for passengers and for road space among the various operators (and individual drivers) causes congestion on already busy roadways and creates a number of operational and safety concerns.

Whereas transit operators such as NJ Transit must balance the deployment of resources with ridership and revenue returns, the financial model of jitney services, as a whole, directly encourages this over-supply in service. Vehicle owners and/or parent companies of the jitney services typically lease their vehicles to individual drivers (similar to some taxi fleets where drivers pay for medallions and the use of taxis), and thus receive their revenue up-front and irrespective of the number of passengers carried in that vehicle in a given time.

Individual drivers who pay for the use of these vehicles must therefore operate as many revenue hours as they can, competing for passengers in order to generate the revenue they need to pay for the vehicle lease and make sufficient operating profit. As a result, competition exists among drivers who may fall under the same vehicle owner or parent company, yet the apparent inefficiency in the over-supply of service does not affect the parent companies. As more vehicles are put on the road, parent companies generate more revenue while drivers must work longer hours and carry more passengers just to meet their minimum income needs.

Safety

Safety represents one of the primary concerns about jitney services among stakeholders and passengers alike. Repeated cases of substandard vehicle maintenance, lax driver training, and vehicular accidents have highlighted the need for more effective oversight and monitoring of operations in the growing jitney service market. In the absence of formal, on-going enforcement

of proper maintenance and operations of jitneys, various municipalities in Hudson County have conducted period crackdowns in cooperation with the Port Authority of New York & New Jersey, the Hudson County Prosecutor's Office, and the NJ Motor Vehicle Commission (MVC). These crackdowns typically involve a designated location where jitney operators are pulled over to the side of the road (while in revenue service) and complete vehicle safety inspections are performed. More often than not, the majority of vehicles pulled over are cited for violations and frequently pulled out of service entirely. The MVC conducts all equipment inspections, while summonses are issued by local police.

These efforts have been successful in demonstrating the substandard maintenance practices of many vehicle owners, yet the time and manpower required limit the frequency and scope of such operations. Furthermore, as soon as operators are made aware of inspections in progress, drivers are known to warn their colleagues and jitney services avoid the area in question altogether. When the inspections are complete, normal operations resume.

Local law enforcement officials in municipalities such as Weehawken, West New York, and Jersey City contacted during this study indicated that they make their own efforts to focus on traffic violations and operational and safety concerns with jitney operators from time to time, but once again resources are limited and these efforts are not necessarily consistent throughout the year.

Accessibility

One critical area in which jitney services are not comparable to fixed route bus services is accessibility. NJ Transit and other bus operators are required to provide wheelchair-accessible vehicles (equipped with lifts or ramps) in regular service, as well as provide complementary ¾ mile paratransit service for customers who cannot effectively use fixed route services. Jitney operators do not ADA-compliant vehicles, which points to another primary difference between the fundamental cost structure of the two service types as well as the fact that jitney services as a general rule do not serve the entire public.

Traffic and Transit Operations

The intense competition between jitney operators and both transit bus operators and other jitneys leads to a number of situations that negatively impact traffic flow and transit operations. Along corridors such as Bergenline Avenue, Boulevard East, and 30th Street in Union City, for example, jitney drivers are frequently observed maneuvering aggressively in local traffic as they attempt to attract as many customers as possible along the route. Stopping mid-block instead of in bus stops is a frequent occurrence, as is driving slowly in front of other jitneys or transit buses to get to waiting passengers first, all the while blocking other vehicles behind. Vehicles weave from lane to lane both in an effort to make quick stops to pick up passengers as well as to pass other jitneys when these blocking tactics are in effect. General vehicular traffic is also affected by these maneuvers, at times prompting motorists to attempt to pass jitneys in unsafe conditions.

Accountability

Along with the numerous safety concerns raised with the jitney services in Hudson County, it has become apparent that accountability for lax maintenance, training, or registration is limited due to the frequent disconnect between parent companies of the jitney services, owners of specific vehicles, and the drivers who use these vehicles on a daily basis.

The Hudson County Prosecutor's Office has taken a lead role in recent years pursuing fraud among jitney operators. Cases have focused on improper licensing, invalid insurance papers or fraudulent use of insurance policies, and the reporting of income and expenses within this cash-oriented business. No records are readily available detailing where the revenues from these services go; drivers are believed to pay vehicle owners a considerable amount of money relative to the costs of vehicle maintenance and ownership.

During inspection crackdowns that not only find vehicles in substandard condition, the prosecutor's office has also found that jitney drivers are often left to assume the responsibility for fraudulent insurance or registration papers that they were given by the vehicle owners or parent companies. Tracing these fraudulent papers beyond the driver or owner of the vehicle has proven time-consuming and difficult, limiting the ability to hold parent companies responsible for safety or insurance violations. Fleet insurance policies have also been exploited by companies operating more vehicles than are legally insured, yet it is difficult to determine- even in the event of an accident- which vehicle is assigned to a given insurance policy on a specific date.

Operating Authority

Adding to the complexity of jitney oversight is the fact that most operators are granted interstate operating authority, yet many operate what is primarily intrastate service. Receiving interstate operating licenses from the United States Department of Transportation is relatively easy, and follow-up oversight of operators is limited. This authority to run interstate service limits the ability of municipalities to restrict routes and services of operators. What has been observed, however, is a practice whereby operators with interstate authority purport to offer service from Hudson County to New York City but instead end their routes without crossing the river.

Similarly, routes may be established from northern Hudson County to New York via Journal Square, i.e., a circuitous route that a New York-bound passenger is unlikely to make given the wealth of direct services. An operator may run one or several trips to New York per day to satisfy the interstate operating permit, however the majority of trips are likely to remain local within Hudson County or within the northern New Jersey region (Bergen and Passaic Counties are seeing increases in jitney operations as well).

Using the interstate authority to supersede local oversight is a common method among jitney operators in Hudson County and underscores a need for more local and regional coordination and enforcement. According to the Hudson County Prosecutor's Office, jitney operators have shown agility in recent years in skirting legal challenges to their services or their application of interstate vs. intrastate operating authority. To address this issue, changes in federal regulations must be addressed through the efforts of New Jersey's congressional delegation. State and local

authorities must be given greater oversight control over transit operations within their own jurisdictions, even in the case of interstate operations.

Counties or local municipalities should be permitted to regulate operators to the extent that those regulations permit the enforcement of improper or unsafe operations, and detrimental competitive practices that ultimately compromise the integrity of the regional transportation system. The geographic component to regulation will be critical to controlling the unchecked provision of service among various operators and competitive operations both between operators and among drivers employed by the same parent companies.

Explicit definitions of jitney services will also be necessary to avoid unwittingly restricting other services such as Americans with Disabilities Act (ADA) paratransit services. Each of New Jersey's 21 counties operates its own paratransit service, with assistance from NJ Transit. Hudson County Transcend provides curb to curb paratransit service county-wide in vehicles of similar size and make to many jitney vehicles. Therefore, jitneys cannot be restricted or licensed simply according to vehicle size without impacting Hudson County Transcend or similar services, public or private.

Enforcement

With any effort for greater oversight or licensing of jitney operations comes the need for increased enforcement throughout Hudson County. Municipal police forces are often constrained with manpower or resources for ongoing enforcement efforts, although a county-wide licensing and registration effort could help simplify the process and educate law enforcement officials. The more police officers are familiar with the requirements (registration, license, safety, operating, etc.) of jitney operators, the simpler the process will be to identify and cite infractions. At present, local authorities focus on obvious safety violations and traffic violations in their day-to-day patrol efforts. When jitney drivers are stopped for these violations, they are typically asked to produce insurance documents and licenses. However, as the Hudson County Prosecutor's Office has demonstrated, fraudulent insurance policies are common and local police may or may not be able to ascertain whether or not a driver's insurance policy is valid.

A common infraction observed by police is the jitney operator who does not pull in to official, marked bus stops. The location and signing of bus stops falls under the jurisdiction of each municipality, however once a stop is established (for NJ Transit, for example), it may be used by any licensed transit operator. Jitney drivers frequently stop mid-block or in travel lanes to pick up passengers, particularly along congested corridors such as Bergenline Avenue. More aggressive and consistent ticketing of operators who do not use official bus stops would reduce traffic conflicts and improve transit passenger, pedestrian, and vehicular safety in the process.

It is critical that any enforcement efforts pertaining to jitney services, whether safety or operational in nature, are conducted consistently across municipal borders within Hudson County and that enforcement is an ongoing effort. Even with only a small task force on the street, the Hudson County Sheriff's Office could provide effective monitoring of jitney operators year-round, supplementing efforts by local police, and with greater flexibility than occasional spot checks and crackdowns.

Development of a Jitney Ordinance for Hudson County

The primary recommendation of this study is to work toward the establishment of a Hudson County jitney ordinance. This ordinance would create consistent definitions of jitney service, a unified approach to oversight and enforcement throughout the county, and authorize enforcement at both the local level and the county level, in part through a permanent, dedicated task force.

A county-wide ordinance would require proper enabling legislation, as New Jersey state law currently allows only municipalities (not counties) to enact such ordinances. Coordination will be necessary among the 12 Hudson County municipalities, the Hudson County Prosecutor's Office, and Hudson Transportation Management Association (Hudson TMA), which is the recommended oversight agency. The Hudson Transportation Management Association is a non-profit organization whose mission is to promote the use of public transportation in Hudson County and further congestion mitigation efforts.

Hudson TMA is part of the Hudson County Improvement Authority (HCIA), an autonomous public agency with broad responsibilities in transportation management as well as affordable housing and solid waste management. The HCIA's enforcement authority provides an ideal framework within which jitney licensing and registration programs can be created for Hudson County, while on-street enforcement of jitney operators- to ensure compliance with the TMA's registration efforts- will be the responsibility of the Hudson County Sheriff's Office.

A model jitney ordinance will contain and authorize, but not be limited to, the following:

- A definition of what constitutes a jitney van and operator (typically a 10-28 passenger van) as per N.J.S.A. 48:16-1 Taxicabs, Limousines and Jitneys.
- All jitney vans with fixed and semi-fixed routes, stopping and picking up passengers within Hudson County, which includes all county roads and roads within the municipalities of Bayonne, East Newark, Harrison, Guttenberg, Kearny, Jersey City, North Bergen, Secaucus, Union City, Weehawken and West New York would be subject to the regulations of the this ordinance. Regarding jitney operations in Hoboken, all operators must abide by the City's existing ordinance. (Ord. No. P-140/Chapter 180 – Limousines and Liveries).
- This ordinance will authorize the jitney enforcement of Hudson County roads to the Hudson County Sheriff's Office and local police departments for local roads.
- Ordinance will establish that all jitney vans operating within Hudson County must comply with New Jersey state regulations for licenses, registration and insurance (N.J.S.A. 48:16-1).
- Ordinance will establish the designation and location of passenger pickup & drop-offs. (Consistent with location of NJ Transit and other operators' bus stops by the municipalities). Any jitney van stopping outside of the established locations will be subject to local traffic violations and fines.
- This ordinance will authorize the Hudson TMA to be the regulating agency. Regulation authority includes:
    - All jitney vans operating within Hudson County are mandated by this ordinance to show proof of licensing, registration and insurance.
    - All jitney vans will register with the Hudson TMA and receive a Passenger Motor Carrier Certificate of Transportation and color-coded decal.
    - Passenger Motor Carrier Certificate of Transportation will be valid for one year.
    - All jitneys vans will be required to clearly display their Passenger Motor Carrier Certificate of Transportation and color-coded decal or be subject to local traffic violations and fines.
    - Hudson TMA, along with local officials, will conduct multi-lingual public outreach efforts to educate the public about using registered jitneys and encourage jitney providers to register and adhere to the new guidelines.

As a point of comparison, New York City currently regulates jitney and small van services through both its Department of Transportation and Taxi & Limousine Commission[1]. Within the city, all operators of commuter van services are required to obtain a license through the commission and adhere to guidelines on service areas and service levels prescribed by New York State and/or City Department of Transportation. Unlike New Jersey, which permits the use of official bus stops by any licensed transit operator, New York City prohibits commuter vans from using routes and bus stops already in place for MTA New York City Transit or any other licensed franchise operator in the city. This measure is intended to prevent direct competition between transit operators. Similar non-competitive agreements exist among fixed route transit operators in New Jersey. However, these agreements do not mitigate competition among jitney operators, or between jitney operators and traditional transit operators.

Unlike New York City, Hudson County does not have a county-wide taxi and limousine commission. Again, the Hudson TMA would serve as an effective alternative for efforts to increase oversight and licensing of jitneys in the county. Enforcement is a challenge in New York as well, as the T&LC has only a modest enforcement unit; city police are responsible for the majority of enforcement duties pertaining to taxis or commuter vans/jitneys.

In Miami-Dade County, the Consumer Services Division (CSD) maintains registration of all for-hire vehicles, including jitneys[2]. The county's regulations on passenger motor carriers indicates that it is "unlawful for any person to use, drive or operate or to cause or permit any other person to use, drive or operate any passenger motor carrier vehicle for compensation upon the streets of Miami-Dade County without first obtaining a Miami-Dade County certificate and maintaining it current and valid, pursuant to the provisions of this article, unless specifically excluded from [Article III. Passenger Motor Carriers. Sec. 31-101. Transportation Policy]".

All jitney operators must apply for a Certificate of Transportation and register with the CSD. Additionally, once the certificate is granted, operators or individuals must apply for a permit for each motor vehicle to be operated. These permits are subject to safety and licensing review and must be renewed annually. Finally, individual drivers must carry a county chauffeur's registration to be permitted to operate motor vehicles for hire.

The Miami-Dade County regulations require operators to submit detailed operating plans and descriptions of their routes. Jitney services are considered to operate on a fixed route but not a fixed schedule. An explicit Coordinated Jitney Service Contract creates an agreement between the county and jitney operators with the aim to "incorporate private jitneys or other passenger motor carriers into the public transportation system of Miami-Dade County".

This language is directly applicable to Hudson County, as one of the fundamental challenges of the current jitney network in northern New Jersey is the excessive, direct competition between jitneys and fixed route transit operators such as NJ Transit. Specific standards must be established to define what constitutes an excess of service, as well as preclude predatory

[1] New York City Taxi & Limousine Commission commuter van rules available at http://www.nyc.gov/html/tlc/downloads/pdf/comvanrules.pdf

[2] Miami-Dade County Passenger Motor Carrier Transportation Policy available at http://www.miamidade.gov/csd/library/Chapter31ArticleIII-Ordinance-PMC.pdf

competition and service overlap among jitney operators and between public transit agencies and private operators.

As noted earlier, interstate operating authority represents a significant hurdle to local control over transit providers. Miami-Dade County's transportation policy notes among the exemptions any passenger motor carrier operating pursuant to a valid Interstate Commerce Commission certificate and providing service over a route through more than one state. Clearly, with no state borders in close proximity to the county, interstate jitney operators in this area are entirely local. Hudson County, conversely, is situated within close proximity to New York State and within the large commuter shed to New York City. This fact emphasizes once more the importance of New Jersey's need to pursue changes to interstate commerce authority for transit and jitney operators. Even if regulatory documents require that interstate transit services be "actual and bona fide", the burden of enforcement and proof lies with the county more so than the operator.

Next Steps

A phased approach is strongly recommended for implementation of an ordinance and eventual prescription of routes and service areas for jitney operators. Establishment of the oversight and enforcement bodies (Hudson TMA/HCIA, Hudson County Sheriff, Hudson County Prosecutor) is a critical first step, while the geographic component of jitney services will demand further planning and coordination between municipalities and transit operators, as well as a more detailed review of interstate vs. intrastate operating authorities and the legal ramifications of limiting services operated by federally licensed interstate providers.

The establishment of a jitney task force, or enforcement body, could begin with a dedicated unit of two to four full-time, on-street personnel, specifically officers from the Hudson County Sheriff's Office. A constant county-wide enforcement presence, even if limited in manpower, will provide Hudson County with a tool for daily monitoring of services and a means of minimizing illegal and unsafe practices. A small administrative staff would organize registration of jitney operators and issue decals and uniform licensing information to both track operators and their vehicle ownership as well as provide inspection and enforcement officers the training and tools they require to determine the legitimacy and legality of an individual operator.

As important as safety inspections are, such as those performed now by the Hudson County Prosecutor's Office in conjunction with the NJ MVC, PANYNJ, and local officials, a jitney task force and enforcement unit would provide ongoing oversight of day-to-day operations, such as aggressive driving tactics, proper use of marked bus stops, and ultimately the deployment of appropriate services (and quantity of service) according to prescribed corridors or zones where feasible.

The goal of this effort is not to place excessive restrictions on jitney operations or ban them altogether. It has become increasingly clear how important the jitney market is for Hudson County and the region, thus efforts should be geared toward creating a more holistic transit network and mitigating the strains caused by the root problem of competition among operators. Ultimately, limits must be placed on the total number of vehicles in operation in a given area or corridor and jitney services should be permitted and encouraged to operate in a manner that is

complementary to the traditional fixed route bus network rather than in direct competition.

Ultimately, the jitney issue in Hudson County presents a complex challenge in the need to balance two fundamental positions:

1. The value of jitney services which, as a rapidly growing market, represent an increasingly important component of the regional transit network and offer mobility options to Hudson County residents and commuters

2. Illegal or inadequately enforced service providers whose competitive practices contribute to congestion, traffic conflicts, and safety concerns among passengers and other roadway users.

The goal of a unified oversight and enforcement effort (i.e., a county-wide jitney ordinance) is to highlight the challenges faced by Hudson County and individual municipalities, and to encourage coordination throughout the county in both promoting transit and jitney services while ensuring public safety and operational efficiency through an enhanced system of oversight and enforcement.

CHAPTER 7 INFRASTRUCTURE IMPROVEMENT RECOMMENDATIONS

This section summarizes the findings for a traffic and bus circulation study conducted within Hudson County, New Jersey. The intent is to identify traffic and safety-related issues at selected locations and along corridors and the effect they have on general bus circulation and activity in each area. The corridors and spot locations included for review were established through initial data collection, public and stakeholder input, and discussion with the study's Technical Advisory Committee. Proposed conceptual measures for resolving identified issues at each location are presented along with relevant information pertaining to the current state of fixed route bus (NJ Transit, Coach USA, etc.) and jitney operations.

An assessment of the location studies reveals that proposed improvement measures could range from minor regulation enforcement and signal timing modification to more in-depth measures including roadway re-striping, bus stop relocation, and traffic diversion. In all cases, the recommendations presented herein are designed to afford improvement to traffic circulation and safety to the corridors and locations with the greatest amount of transit service, thereby improving travel for as many transit users as possible. Furthermore, improvements to circulation that improve the flow of bus transit will also improve the overall network capability.

The proposed improvements and the overall findings of the study are outlined in further detail in the following sections of the report. An overview of the study area is shown in Figure 7-1. Specific locations covered by the study and individual corridors analyzed for chronic delay and traffic congestion are listed in Table 7-1.

Figure 7-1 - Hudson County Overview

Table 7-1 - Study Locations and Corridors

Areas of Study	Analysis Locations		Jitney Count Locations
	Location	Corridor	
West New York/Guttenberg	Boulevard East & Ferry Rd.	Bergenline Ave.	Bergenline Ave.
	Boulevard East & 60th St.		
Union City	Bergenline Ave. at 48th thru 50th St.	Bergenline Ave.	JF Kennedy Blvd. 30th St. & 31st St.
	31st St. On Ramp to Westbound Rt. 495		
	Bergenline Ave. & 32nd St.		
Jersey City	West Side Ave. & Duncan Ave.		Newark Ave.
	West Side Ave. & Communipaw Ave.		
	Newark Ave. & Palisade Ave.		
	Montgomery St. & Center St./Merseles St.		
	Mall Drive West		
	Montgomery St. & Marin Blvd.		
	Journal Square Jitney Route		
Bayonne		JF Kennedy Blvd.	
Kearny	Kearny Ave. & Midland Ave.		

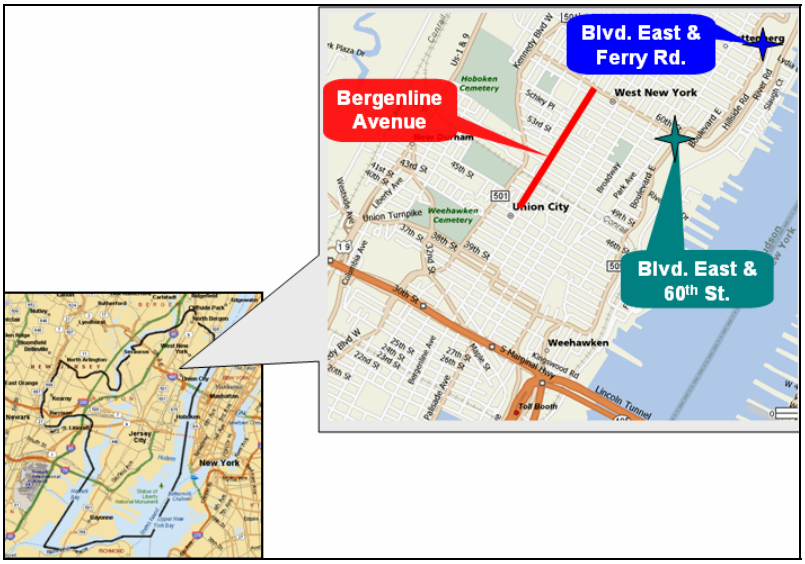
Data Collection

Field data collection for each location varied depending on the problems or issues existing at each location and the goal of the study for each one. In general, a manual sample count and a collection of physical inventory was conducted for each area during either the AM or PM peak periods, including videotaping and photographing at some locations. Additional data including traffic counts, signal timings, and geometric data pertaining to the study were acquired from both the Hudson County Office of the County Engineer, and the Jersey City Division of Traffic and Transportation.

West New York/Guttenberg

Locations studied in these areas include Boulevard East and Ferry Road in Guttenberg, Boulevard East and 60th Street, and a section of Bergenline Avenue (north of 47th Street) in West New York. An overview of the area is provided in Figure 7-2.

Figure 7-2 – Study Locations in West New York/Guttenberg



Boulevard East & Ferry Road

Boulevard East traverses the eastern region of West New York, providing a north/south connection between North Bergen and Weehawken. The corridor is a major transit service area both for local customers as well as New York-bound commuter services from Bergen County. The roadway geometry bends or, in more technical terms, has a reverse curve near its intersection with Ferry Road. Far-side bus stops are located along the curve section in both directions. An illustration of the location is shown in Figure 7-3a.

Figure 7-3a - Boulevard East & Ferry Road

Observations of the northbound stop indicate that buses must make a sharp left-turn to leave due to its position along a sharp curve and have difficulty seeing vehicles coming from Ferry Road. Similarly the southbound stop is also located on a curve, but here buses tend to stop and block half of the southbound receiving lane instead of driving completely into the bus stop area.

The proposed improvement would be to relocate the northbound bus stop further north to where the road geometry becomes a smoother curve. This would improve the stopping position of the bus and align it parallel with the general direction of traffic in addition to giving buses a clearer view of vehicles coming from Ferry Road. For the southbound bus stop, installation of pavement markings would guide the bus into the stop area and nearer to the shelter and help prevent buses from stopping in the middle of the receiving lane. The improvements are designed to improve general traffic flow as well as allow safer conditions for bus operators and passengers in a heavily-traveled corridor. These measures are illustrated in Figures 7-3b and 7-3c.

Figure 7-3b
North of Ferry Road

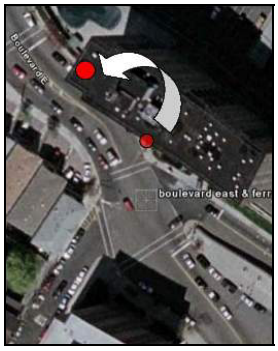


Figure 7-3c
South of Ferry Road

With a large number of nearby residences, including some serving the elderly, pedestrian safety is also a concern in this area. The intersection of Boulevard East and the minor road, Ferry Road, is a semi-actuated intersection with four crosswalks.

One concern is that some pedestrians are not aware of the importance of pressing the crosswalk button to cross the street. If the crosswalk button is not pushed, pedestrians will not receive a pedestrian "walk" signal to cross the street. When these pedestrians don't see the WALK phase activate they misinterpret the signal as being broken and may wait another cycle length to try crossing or may inappropriately cross during the wrong traffic signal phase. Signs saying "press button to cross street" along with the distribution of educational material teaching the nearby residents about pedestrian safety and the importance of activating pedestrian buttons at crosswalks may alleviate this problem.

The second issue is that pedestrians are not provided sufficient crossing time across Boulevard East when Ferry Road is being served by the traffic signal. The longest crosswalk in this intersection measures about 75 feet across the Boulevard East northbound approach. It was observed that the flashing DON'T WALK signal that runs concurrently with the minor approach provides only 17 seconds of pedestrian crossing timing and does not give pedestrians sufficient time to cross Boulevard East. The average walking speed used in standard traffic engineering practice is 3.5 feet / seconds. This figure was used to find the minimum amount of time that the flashing DON'T WALK phase should provide for crosswalks along Boulevard East, which was calculated to be about 20 seconds. Modifying the walk signals to provide a minimum of 20 seconds flashing DON'T WALK time across Boulevard East is recommended at this location.

Boulevard East & 60th Street

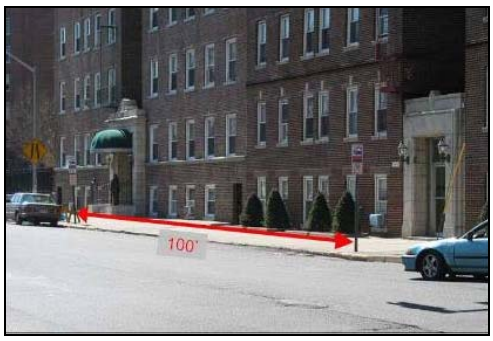
Further south along Boulevard East is its intersection with 60th Street. There is a far-side bus stop in the southbound direction with a capacity for two buses in approximately 100 feet of storage space. Passengers waiting for a bus tend to stand near the curb corner at the foot of the stop instead of waiting further south near the head of the stop. Consequently, buses would stop at the waiting passenger’s position thus inefficiently utilizing the bus storage area. Whenever a second bus arrives and stops behind the first bus, 60th Street traffic becomes partially blocked. This condition occurs at several locations throughout the Boulevard East corridor, identified

through input from stakeholders in West New York and Union City.

Figure 7-4a shows and example of a pedestrian waiting near the curb, and Figure 7-4b illustrates the bus stop.

Figure 7-4a
Passenger Waiting Near Curb

Figure 7-4b
Bus Stop Area



To reduce the chances of bus queues blocking 60th Street traffic, pavement markings stating, "Bus Stop" would be placed at the head of the bus stop area. In addition, sidewalk markings would be placed near the head of the stop designating a passenger waiting area. This would reduce confusion among bus passengers, help mitigate bus bunching and congestion at stops when multiple buses arrive at the same time, and thus improve general traffic flow in the corridor. Figure 7-4c illustrates this measure.

Figure 7-4c – Improvement of Bus Stop

Bergenline Avenue / Washington Street (Hoboken)

This corridor study focuses on a section of Bergenline Avenue lying north of 47th Street. The north-south corridor in this area operates as a two-way roadway with one effective moving lane in each direction. Parking is provided on both sides along its entire length. Bergenline Avenue travels through a predominately commercial area which extends along both sides of the corridor

and carries about 800-900 vehicles during each peak hour including about 100 jitney buses. It tends to become congested during the weekday PM period and during the weekend midday and late afternoon periods. Factors that contribute most to traffic congestion include the following:

- Left-turning vehicles that block or reduce the speed of through vehicles
- Jitney and bus movements weaving in and out of traffic to pickup/drop off passengers - causing friction along multiple points of the corridor
- A combination of left-turn vehicles, near side bus stops blocking traffic, and illegal double parkers that narrow the travel lane and reduce the speed of the corridor

Based on field observations, it was found that the existing traffic operations and traffic issues including the basic roadway geometry along the Bergenline Avenue corridor are, in fact, very similar to the Washington Street corridor in Hoboken. Washington Street is a heavy transit corridor, however based on discussion between the project staff, stakeholders and the TAC, this corridor was not designated a priority for detailed review at the corridor level, rather it would be reviewed in the context of specific spot locations or improvements. Since this is the case, the proposed improvement measures for Bergenline Avenue could be applied to Washington Street as well; the following mitigation plan would be relevant to both corridors. Note that jitney service is restricted in Hoboken, whereas Union City is a focal point for jitney operators, thus Washington Street does not exhibit the same degree of traffic conflict.

To help alleviate delays, several proposed measures for the corridor are recommended. The first measure is a re-striping plan that would channelize approaches to provide both a left-turn lane and a through or shared through-right lane. The second measure would relocate near-side bus stop operations to far-side operations at locations where approaches have left-turn movements. Finally, the third measure would provide strict enforcement against double parking. Detailed re-striping plans shown in Figures 7-5a and 7-5b provide an example of these proposed measures. Figure 7-5c illustrates how the measures would appear when implemented on a larger scale along Bergenline Avenue.

Figure 7-5a
Existing Condition

Figure7- 5b
Proposed Re-striping Plan

Specific mitigation measures for the above example location include the following:

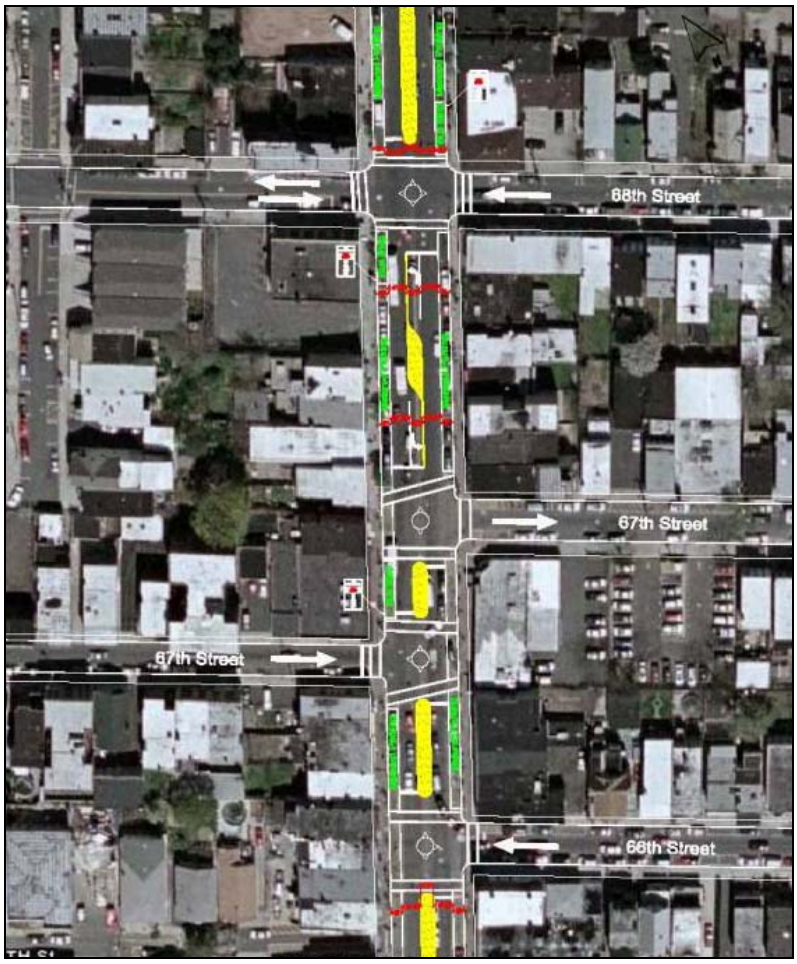
Northbound

- Re-stripe the centerline from a single 6-inch centerline to a 10-foot wide painted median
- Provide strict enforcement against double parking

Southbound

- Shift the centerline 5 feet to the east and re-stripe the southbound approach from one 19.5-foot shared left-through lane to a 10-foot left-turn lane and a 14.5-foot through lane
- Move the near side bus stop to the far side
- Provide strict enforcement against double parking

Figure 7-5c - An Example of Widespread Implementation of Proposed Measures



The mitigation measures would promote a more consistent traffic operation along the corridor and reduce disruptive issues including double parking blockage, left-turn blockage, and bus stop

blockages in combination with left-turning vehicles. Prior to implementation further analysis and design would be required.

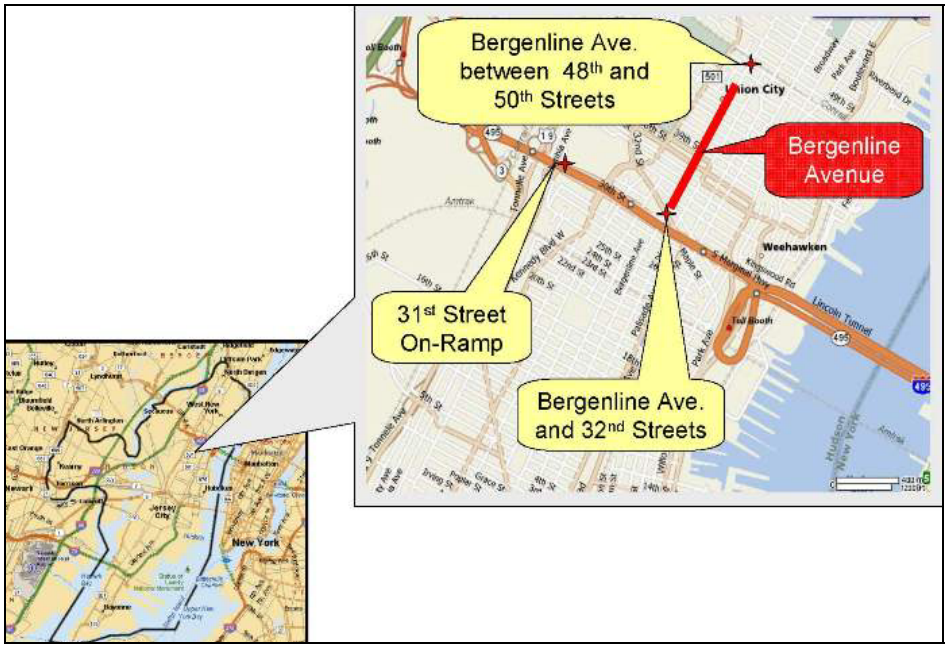
Union City

Data collection and recommendations in Union City include the following study locations:

- Bergenline Avenue between 48th Street and 50th Street.
- Bergenline Avenue and 32nd Street
- Bergenline Avenue between 31st Street and 47th Street
- 31st Street on-ramp and westbound Route 495.

Figure 7-6 illustrates these specific locations, three of which represent specific congestion locations, while the third (Bergenline Avenue between 31st Street and 47th Street) addresses corridor-wide impediments to traffic flow that slow bus travel and negatively impact transit users and automobile drivers alike.

Figure 7-6 – Study Locations in Union City



Bergenline Avenue between 48th Street and 50th Street

The present traffic signal progression along Bergenline Avenue between 48th and 50th Streets is erratic due to uncoordinated signal cycle lengths. The signal cycle lengths at 48th and 49th Streets operate at 94 seconds whereas the cycle lengths at 50th Street and locations northward operate at 90 seconds. The irregular traffic progression and "stop and go" conditions produced by the uncoordinated signals cause northbound queues to constantly build between 49th and 50th Streets and produce unnecessary delay. The proposed measure would recommend modifying the signal timings at 48th and 49th Streets to a 90-second cycle length. This would require

subtracting 3 seconds of green time from phase 3 and 1 second of green time from phase 1 at 48th Street. Four seconds of all red time would be subtracted from phase 4 at 49th Street. Figures 7-7a and 7-7b illustrate the existing queuing issue and signal plan, respectively. Figure 7-7c provides the proposed signal plan.

Figure 7-7a – Location of Chronic Queues

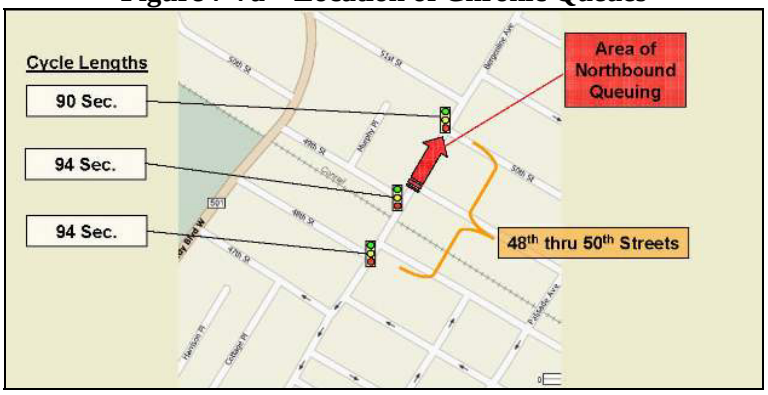


Figure 7-7b - Existing Signal Timing

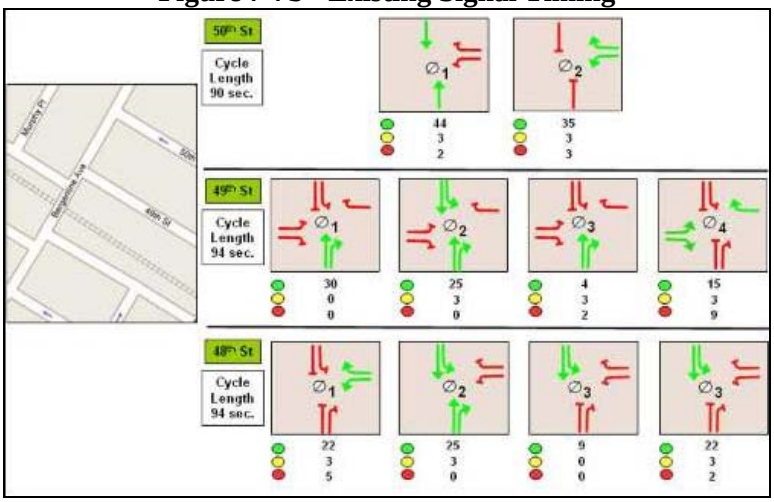
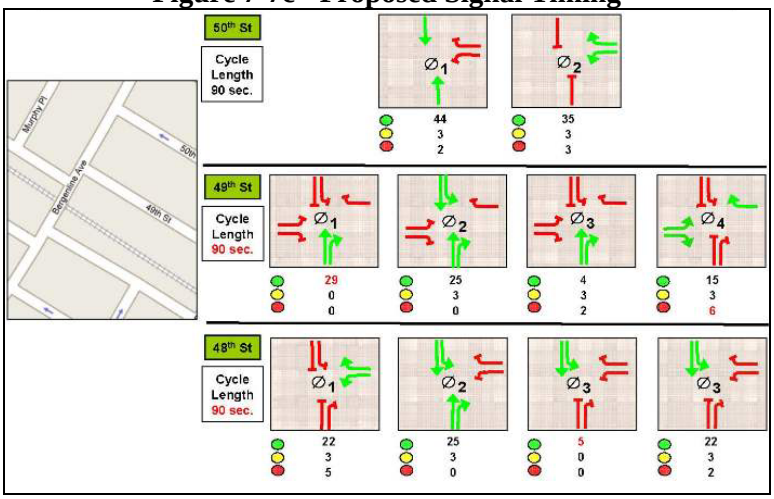


Figure 7-7c - Proposed Signal Timing



Bergenline Avenue between 31st Street and 47th Street
Bergenline Avenue and 32nd Street

The Bergenline Avenue corridor south of 47th Street operates as a one-way southbound roadway with one effective moving lane, and legal parking on its east side as it travels through a predominately commercial area. At its intersection with 32nd Street, Bergenline Avenue's alignment bends east to join the receiving lanes. The intersection is estimated to carry about 400-500 southbound vehicles during each peak hour including about 80-100 vehicles that are jitneys. While jitney services represent a valuable component of the transit network in the region, traffic conflicts, congestion, and safety issues arise due to competitive practices among operators and an excessive number of vehicles serving certain corridors such as Bergenline Avenue. Approaches to service regulation and distribution will be addressed in subsequent sections of this study.

Vehicles traveling this section of the corridor encounter a variety of delays including jitney and bus movements (often due to inadequate bus stop space), illegal parking or standing delivery vehicles on the west side of the corridor, side street turning volume interference, typical parking activity, and narrow lane widths. These factors, in addition to the inefficient capacity and skewed alignment at the signalized intersection of Bergenline Avenue and 32nd Street, result in severe congestion and long queues producing a "bottleneck" at this critical location.

To alleviate delays the proposed mitigation measures between 47th and 31st Streets would incorporate a bus lane along the no parking area (west side of the corridor) in conjunction with strict enforcement of no parking or standing in the bus lane and delivery vehicle restrictions during peak hours. Parking along the east side of the corridor between 33rd Street and 31st Street, would be removed. These measures would eliminate the parking activity at the intersection and offer a wider travel lane for through vehicles hence increasing capacity. Additionally, buses would have their own lane - reducing their interference with regular traffic and decreasing travel times as a result. An additional recommendation is for further study to realign the intersection to smooth the travel path across 32nd Street. Figure 7-8a illustrates existing conditions, and Figure 7-8b provides illustrations of the proposed corridor and recommended intersection modifications.

Figure 7-8a
Existing Condition

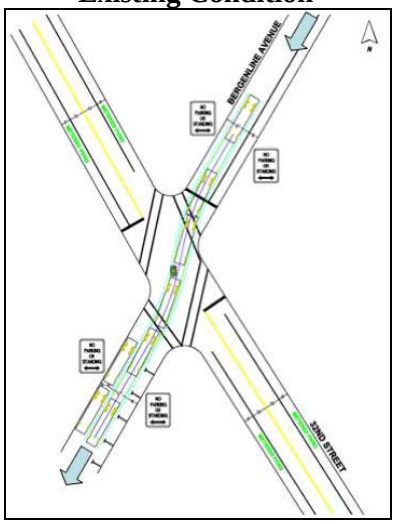
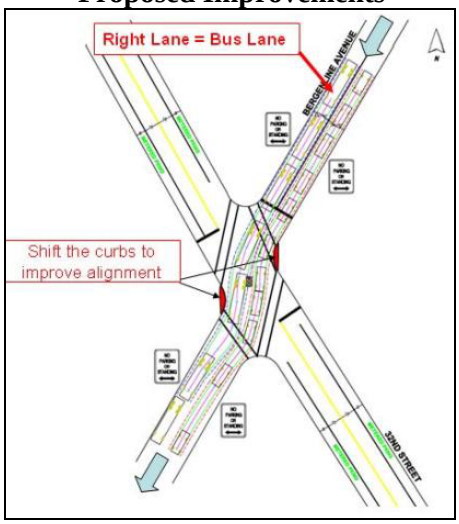


Figure 7-8b
Proposed Improvements



31st Street On-Ramp and Westbound Route 495

The 31st Street on-ramp carries local traffic from John F Kennedy Boulevard and 31st Street onto Route 495 westbound. It experiences long continuous queues that extend along its entire length during both weekday PM and weekend midday peak periods due to the STOP sign metering traffic flow at the end of the ramp. The sign is required for safety issues due to its close proximity (about 200 feet west) to the northbound Route 1&9 off-ramp where weaving autos and heavy vehicles cross over from Route 495 to access the ramp.

The result of this congestion is frequent traffic delay, including delays for buses entering the highway westbound from 31st Street. This location was cited repeatedly during public outreach efforts as a problem, and given the substantial transit volumes both on Route 495 (from New York City) and on the 30th and 31st Street service roads, the impact of any travel delays is felt by a substantial number of transit riders.

Along Route 495, the area west of the 31st Street ramp has four separate weaving movements. The weave area is classified as a Type B weaving configuration based on the *2000 Highway Capacity Manual* (*HCM2000*). The first weave movement, as mentioned before, is immediately after the 31st Street ramp and is performed by vehicles crossing over from Route 495 to the northbound Route 1&9 off-ramp, the second weave movement involves vehicles from Route 495 executing one lane change to access southbound Route 1&9, the third weave movement consists of vehicles crossing from Route 495 to the Route 3 access lanes, and the fourth weave movement involves vehicles making two lane changes from the 31st Street on-ramp to the NJ Turnpike access lanes.

In order to safely remove the STOP sign at the end of the 31st Street ramp, proposed improvement measures would be required to eliminate the weaving movement bound for northbound Route 1&9. To accomplish this, all Route 495 traffic destined for Route 1&9 would

be required to detour to the 31st Street ramp. This would be accomplished through the addition of signage to direct Route 1&9 bound traffic to exit at the JF Kennedy Boulevard exit. Traffic would then proceed to access the Route 1&9 ramps via the 31st Street ramp.

This measure would eliminate the weave movements from Route 495 to all Route 1&9 ramps thus removing two weave movements from the system and simultaneously facilitating the removal of the STOP sign at the 31st Street ramp. The sign removal would potentially increase ramp capacity from the present 1,500 vehicles per hour processed to approximately 1,700 to 2,000 vehicles per hour. In addition to the traffic diversion, a barrier in conjunction with restrictive lane striping would be placed after the 31st Street ramp to restrict traffic from crossing from Route 495 to the Route 1&9 ramps, but would allow 31st Street traffic to safely weave to the NJ Turnpike. Figures 7-9a through 7-9c provide illustrations of the proposed measure and diverted traffic volumes.

Prior to implementing this measure further study would be required. In addition, signage and possibly the distribution of pamphlets, explaining the change, at the Lincoln Tunnel and/or the Turnpike would be recommended.

Figure 7-9a – Improvement Measures East of the 31st Street Ramp

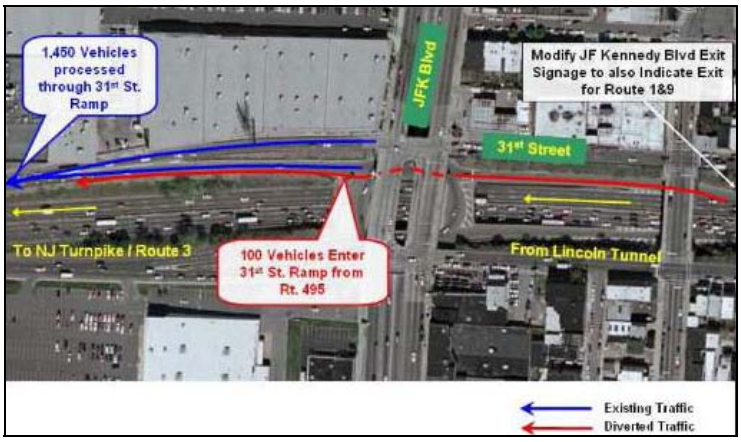


Figure 7-9b – Improvement Measures West of the 31st Street Ramp

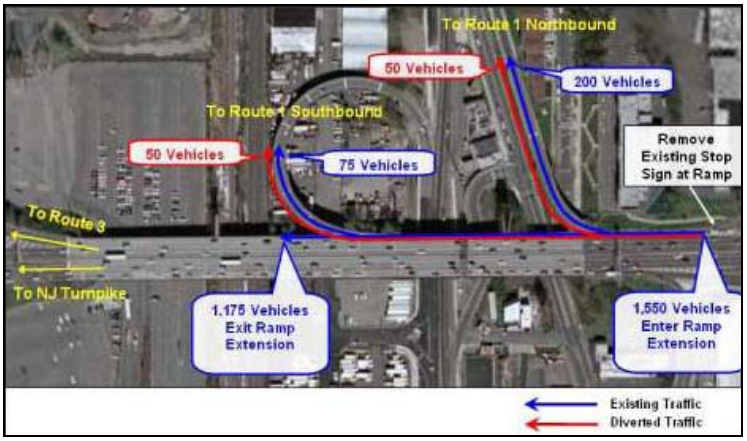


Figure 7-9c – Proposed Restrictive Barrier / Re-striping Combination

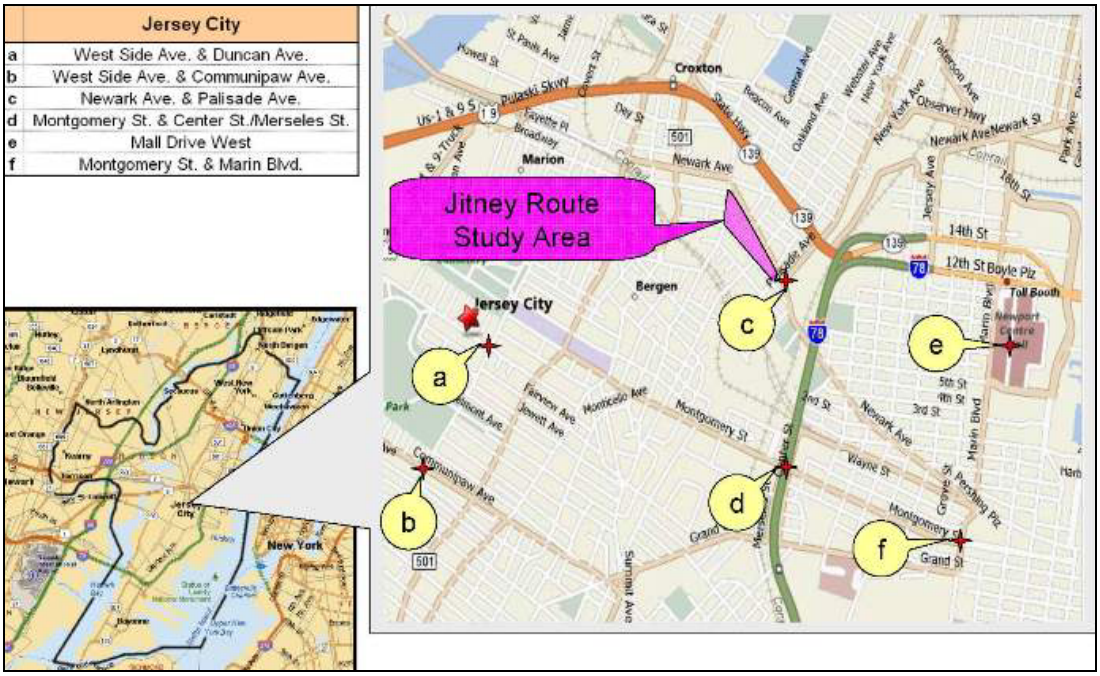
Jersey City

Study locations in Jersey City include:

- West Side Avenue and Duncan Avenue
- West Side Avenue and Communipaw Avenue
- Newark Avenue and Palisade Avenue
- Montgomery Street and Center Street / Merseles Street
- Montgomery Street and Marin Boulevard
- Mall Drive West (at Newport Centre Mall)

Figure 7-10 provides an illustration of the study locations in Jersey City.

Figure 7-10 – Study Locations in Jersey City



West Side Avenue and Duncan Avenue
West Side Avenue and Communipaw Avenue

West Side Avenue extends north-south along the west side of Jersey City in a commercial area as a two-way roadway with parking on both sides and narrow travel lanes. Traffic progression is sporadic and occasionally sluggish along the corridor, especially at its intersections with Duncan Avenue and Communipaw Avenue. Various activity including frequent bus stops along both directions, standing vehicles or delivery vehicles near the intersections, and narrow travel lanes, add friction to the flow of bus transit and general traffic. Examples of these occurrences are provided in Figures 7-11a and 7-11b.

Figure 7-11a
Bus Blocking Travel Lane

Figure 7-11
Standing Vehicle Blocking Traffic

The area is fully developed with commercial business, parking, and sidewalks along both sides of the corridor and because of the narrow roadway and modest sidewalks, major modifications like roadway widening or narrowing of sidewalks are not feasible here. Recommended improvements include the restriction of standing vehicles and delivery vehicles during peak hours, a key impediment to bus operations, and similar enforcement requiring buses to stop as near to the curb as possible to avoid exacerbating congestion due to narrow rights of way.

Newark Avenue and Palisade Avenue

Two issues, the improvement of pedestrian safety at the intersection and the improvement of transit and traffic progression along Newark Avenue during the AM peak period, were identified at this location. This is a critical intersection for two reasons: a major bus route serving a significant area of Hudson County runs through both legs of the intersection, and Dickinson High School is located on the northeast corner of the intersection drawing a high student pedestrian volume and additional vehicular trips to this intersection during school arrival and dismissal hours. Jitney vehicle volumes are also quite high in this area.

During weekdays between 7:30 am to 8:30 am, about 550 students arrive via NJ Transit buses at the corner of eastbound Newark Avenue and Chestnut Ave, after which they proceed to cross Newark Avenue and Palisade Avenue to access Dickinson High School along the east side of Palisade Avenue. A significant number of student crossings are conducted mid-block outside of the designated crosswalks in an uncoordinated manner and without enforcement. The uncoordinated crossing activity is a major disruption to traffic since pedestrians randomly traverse anywhere at any time across both Newark Avenue and Palisade Avenue. As a result, there is erratic traffic progression and continuous queuing with unpredictable pedestrian crossings leading to unsafe conditions.

It was observed that when a crossing guard (police officer) is present at Palisade Avenue directing students to cross at the crosswalk during the proper phase, traffic conditions improved. When a crossing guard is not present during school arrival/dismissal times, the southbound left-turn movement along Newark Avenue is severely delayed by a combination of insufficient green time and pedestrian disruption. In addition, the long left-turn queue in combination with standing vehicles near the intersection block the through movement, producing constant queues and frequent unmet demand at the southbound Newark Avenue approach. As a result of this condition, bus service is also affected along the corridor. An aerial map of the intersection along with the pedestrian crossing activity is illustrated in Figure 7-12a, and the existing traffic signal timing plan is provided in Figure 7-12b.

Figure 7-12a – Pedestrian Activity

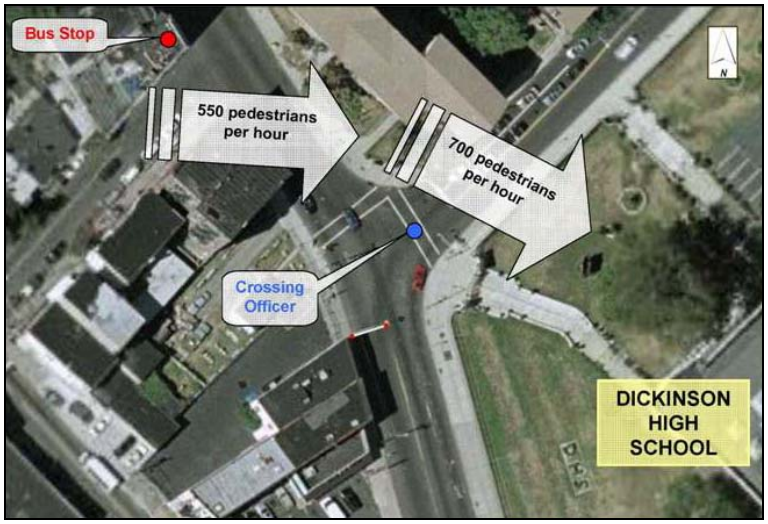
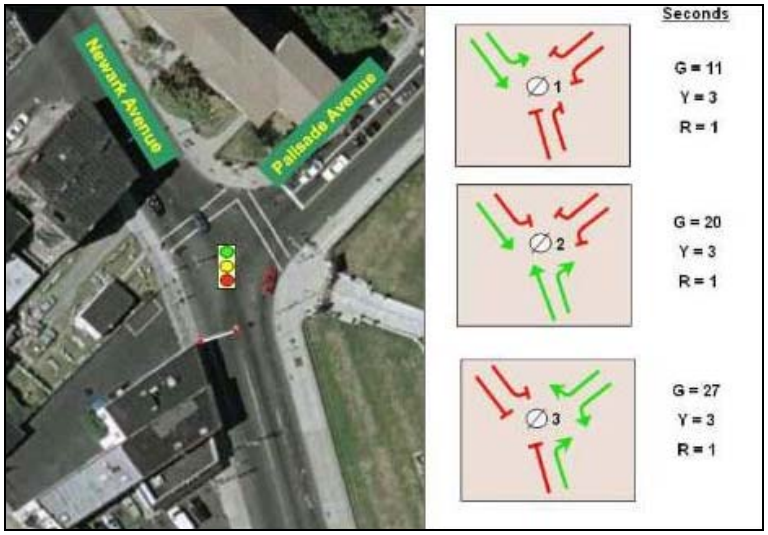
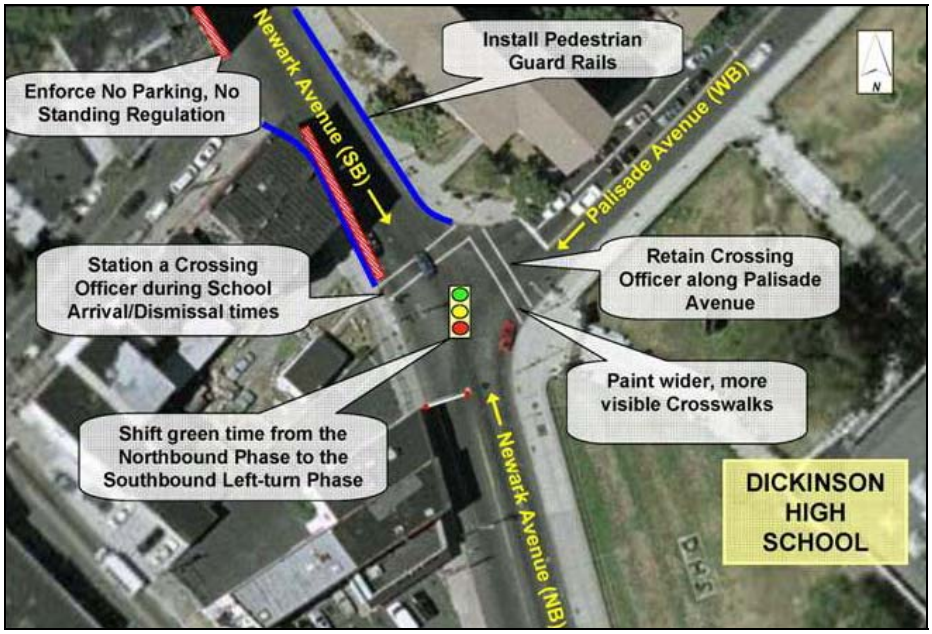


Figure 7-12b – Existing Signal Timing



Proposed measures to prevent mid-block crossing and encourage pedestrians to cross Newark Avenue along the designated crosswalk include installation of pedestrian guard rails along both sides of Newark Avenue (between Chestnut Avenue and Palisade Avenue) in conjunction with a crossing guard to enforce coordinated crossings. The proposed measure for Palisade Avenue involves retaining the crossing guard on Palisade Avenue. Additionally, existing crosswalks would be re-striped to provide wider and more visible crossing areas, strict enforcement would be provided for the "No Parking / No Standing" regulations, and some green time from the northbound phase would be shifted to the southbound left-turn phase. Figure 7-12c provides an illustration of the recommended improvement measures.

Figure 7-12c – Improvement Measures



Montgomery Street and Center Street / Merseles Street

This is a critical intersection serving as one of the key entrance and exit points of I-78. The intersection needs to process a significant amount of commuter volume circulating between I-78, Journal Square, and downtown Jersey City during both the AM and PM peak hours. This includes a substantial level of bus traffic, both local service along the Montgomery Street corridor (Montgomery & Westside) and express service via the Turnpike (NJ Transit and private operators). During public outreach efforts in the Grove Street and Exchange Place areas of Jersey City, this intersection was cited frequently as a source of delay for transit riders.

A chain reaction effect occurs at this location where the eastbound and westbound left-turn queues block each other along Montgomery Street beneath the I-78 overpass. Eastbound and westbound left-turners (approximately 200-250 vehicles per hour) have difficulty in finding gaps through oncoming traffic during the "permitted" phase causing queues to build and traffic friction to develop for through moving vehicles.

The City of Jersey City has already developed short- and long-term improvement plans for this location. The short term plan, which is currently under construction, involves prohibiting all left turns at the intersections of Montgomery Street with Merseles and Center Streets and redirecting vehicles via local roads to reach their destinations. Long-term plans involve grade separation at this intersection in the form of fly-over ramp structures or sunken roadways allowing I-78 ramp traffic to bypass the signalized intersection and relieve it of the ramp volume. Both the short- and long-term improvements should mitigate traffic conflicts, although the City of Jersey City has not yet committed to the advancement of the long-term improvements at this location.

Mall Drive West (Newport Centre Mall)

Mall Drive West travels in the north-south direction. It is a two-way private roadway located in between the Newport Centre Mall's parking garage and the mall complex. A NJ Transit bus stop area is provided on the east side of the roadway and the entrance/exit of the parking garage is located directly west across from the bus stop area. During the weekend peak hours, three to four buses queue up in the bus stop lane while northbound traffic making left-turns into the garage queues beside the buses. To leave the bus stop, buses must "force" their way into the traffic queue and then drive through a busy crosswalk that links pedestrians between the mall and the garage. Figure 7-13 provides a picture of the described condition.

Figure 7-13 – Bus Operation at Newport Centre Mall

To reduce conflicts between buses and general traffic along Mall Drive West, a traffic officer is recommended to stop general traffic and allow buses to safely enter the travel lane and to increase pedestrian safety. The bus stop area could also be moved north of both the garage access point and the pedestrian crosswalk. This would place the buses north of the conflicting traffic queue area, improving travel time and safety through the mall for transit operators and customers. In addition, Newport Centre Mall has been in discussion with NJ TRANSIT and the other bus operators that serve the Mall regarding the possibility of relocating the bus stop from Mall Drive West to Mall Drive East. The issue was still in the discussion stages at the time this report was issued.

Montgomery Street and Marin Boulevard

The southbound signal progression along Marin Boulevard is currently disrupted at the York Street signal occasionally causing minor queue spillbacks. Both locations have the same cycle length. Adjusting the signal offset at York Street to better coordinate with the signal at Montgomery Street is recommended to improve circulation along Marin Boulevard.

Bayonne

The JF Kennedy Boulevard corridor is the focus of study in this area. This corridor is an important route that travels north-south providing two effective moving lanes in each direction and parking along both sides. It travels through a primarily residential area connecting residents and commuters between major destinations including Staten Island and Jersey City. In particular, the corridor is an important bus transit connection from Bayonne to Journal Square in Jersey City, New York City, and other regional services. An illustration of the corridor area is provided in Figure 16. A total of about 1,500 vehicles travel along this corridor during both peak hours with traffic weighted toward the northbound direction during the AM peak and southbound during the PM peak.

Figure 7-14 – JF Kennedy Boulevard in Bayonne

In Bayonne, JF Kennedy Boulevard is characterized by numerous side street crossings from residential neighborhood sections. There are about 40 coordinated traffic signals spread throughout the corridor with the current signal timing operation set in a pre-timed mode with pedestrian/side street recall. Signal recall forces signals to provide a minimum green time for pedestrians and side streets even when no demand is present. Field observations reveal that corridor traffic stops often for traffic signals serving side streets even though there is little to no volume. While this may have a desired traffic-calming effect, given the width of the boulevard and propensity among motorists to exceed the speed limit, it also slows bus traffic and leads to long travel times for commuters and other customers traveling to Journal Square or other destinations.

In order to assess traffic progression and travel delay experienced along the corridor, Synchro/Simtraffic software was used to simulate and analyze a portion of the corridor under the existing condition, along with three proposed alternatives for signal modification, which are listed in Table 7-2.

Table 7-2 – Signal Plan Scenarios

JF KENNEDY BOULDEVARD		
Scenario	**Cycle Length**	**Pedestrian & Side Street Recall**
Existing	90 Seconds	**YES**
Proposal - 1	90 Seconds	**NO**
Proposal - 2	120 Seconds	**YES**
Proposal - 3	120 Seconds	**NO**

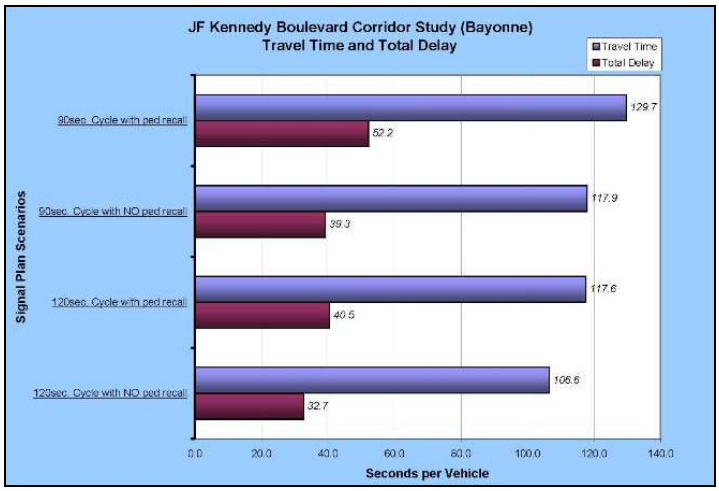
Each of the above scenarios was analyzed and the resulting average travel time and delay along JF Kennedy Boulevard was summarized from Simtraffic. The numerical results are provided in Table 7-3.

Table 7-3 – Numerical Results

	JF KENNEDY BOULDEVARD			
	Existing	**Proposal - 1**	**Proposal - 2**	**Proposal - 3**
Travel Time (Sec/Veh)	129.7	117.9	117.6	106.6
Total Delay (Sec/Veh)	52.2	39.3	40.5	32.7

The graphic illustration of the results is shown in Figure 7-15a.

Figure 7-15a – Travel Time and Delay



The results indicate the third proposal for a 120 second cycle with no recall would yield the lowest travel time at 106.6 sec/veh and lowest delay at 32.7 sec/veh for the entire corridor demonstrating that if corridor traffic is provided a longer green time signal and makes fewer

stops at red traffic signals then delay would be reduced for the majority of traffic in the system, including transit trips.

In addition, each scenario was also analyzed for total stops, total fuel consumption, and average side street delay which indicated the third proposal yielded the lowest number of stops and amount of fuel consumed. In contrast, side streets would experience an increase in delay as predicted, but the maximum increase is to an acceptable delay of about 40 seconds per vehicle. The increase in delay for the side street traffic can be justified since corridor volumes on JF Kennedy Boulevard are significantly higher than side street volumes hence the majority of traffic would be benefiting from improved service along the corridor. Another justification is that traffic along the side street would also experience benefits after transitioning onto the corridor. These results are provided in Figures 7-15b through 7-15d.

Figure 7-15b – Total Stops

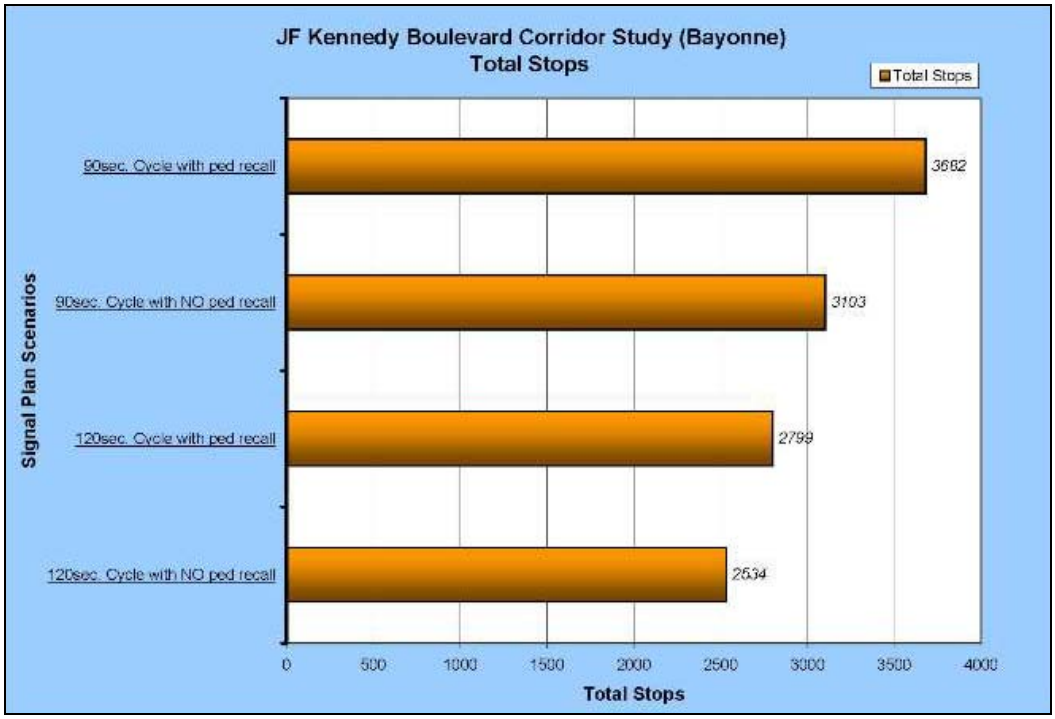


Figure 7-15c – Fuel Used

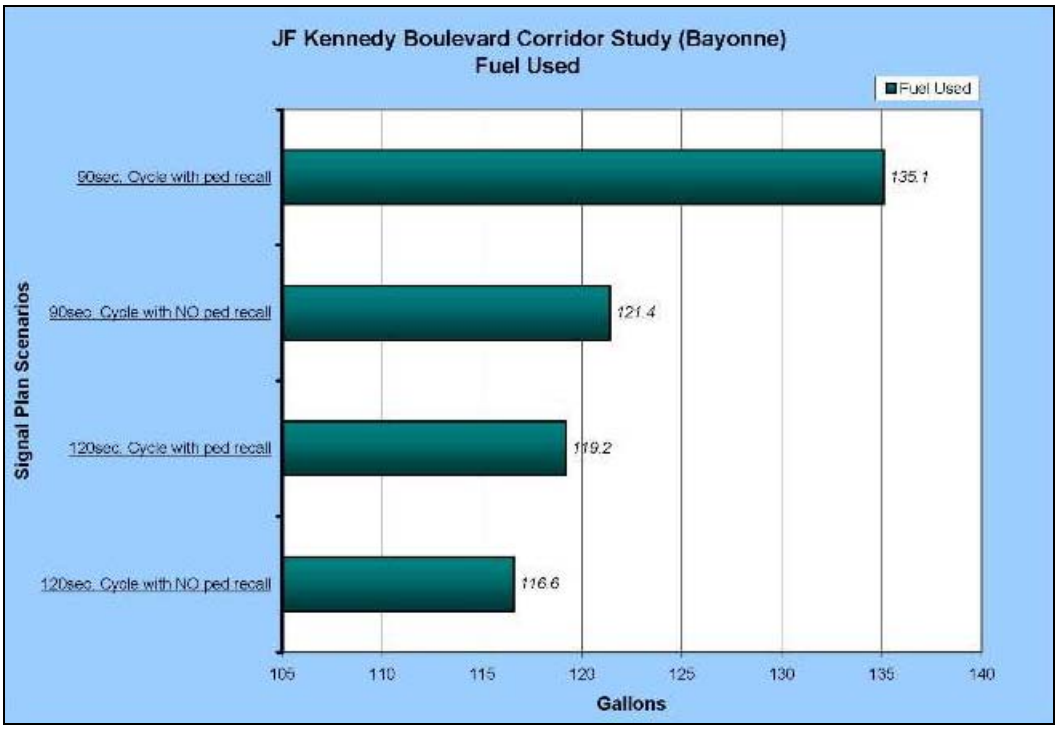
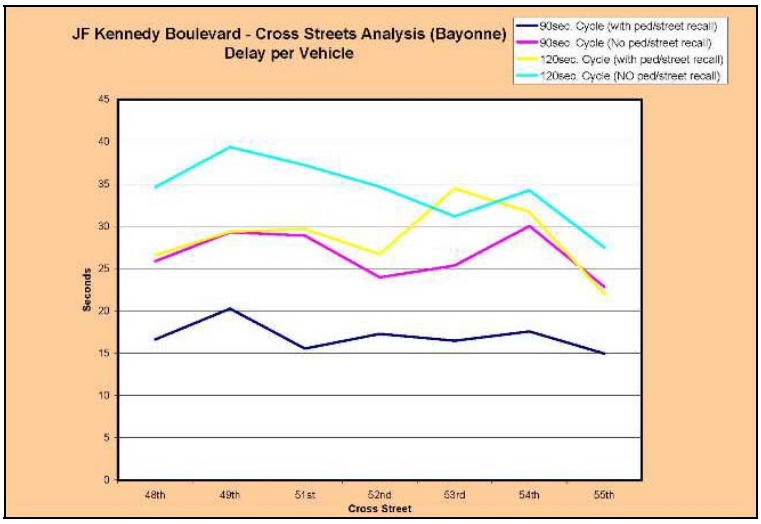


Figure 7-15d – Side Street Delay



Kearny

At the intersection of Midland Avenue and Kearny Avenue there is a peculiar mid-block bus stop located along northbound Kearny Avenue placed north of Midland Avenue. The location of the intersection is shown in Figure 7-16. The bus stop sign is placed inside a metered parking area, and there is no pavement marking area to clearly indicate an actual bus stop. Field observations reveal that this ambiguity encourages bus drivers to stop the bus outside of the metered parking area and in the middle of the northbound travel lane thus blocking traffic and causing unnecessary delays, as well as creating an inconvenience and potential safety hazard for bus riders. Figures 7-17a and 7-17b provide an example of this situation.

Figure 7-16 – Kearny, NJ

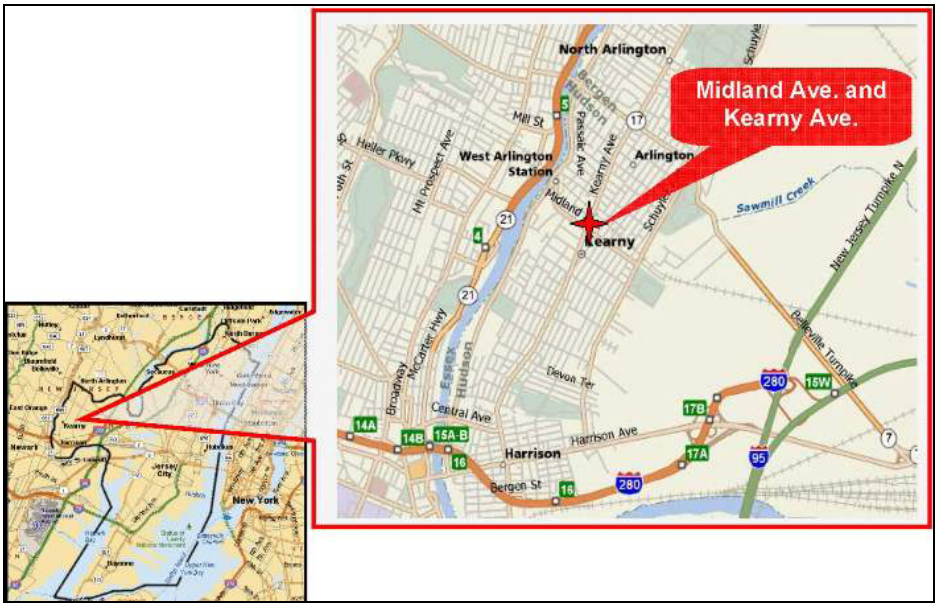


Figure 7-17a

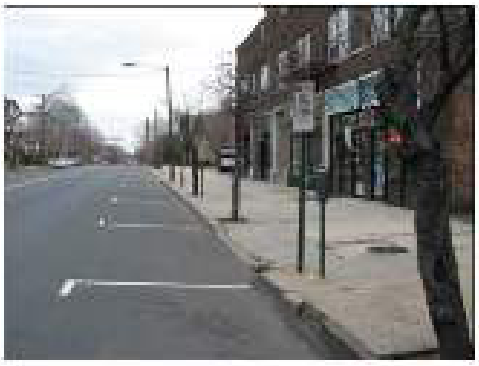


Figure 7-17b

The proposed measure would remove metered parking spots and provide a marked area for bus stops to discourage buses from stopping in the middle of the travel lane. This measure is illustrated in Figure 7-17c.

Figure 7-17c – Mitigation Measures

Other Improvement Options

Additional improvement options were put forward through feedback from the Hudson County Board of Chosen Freeholders, including anti-gridlock programs at severely congested intersections and permitting automobile parking in bus stops overnight when no transit service is operated. These options were given additional consideration by the study team, with the following recommendations.

Anti-Gridlock Initiatives

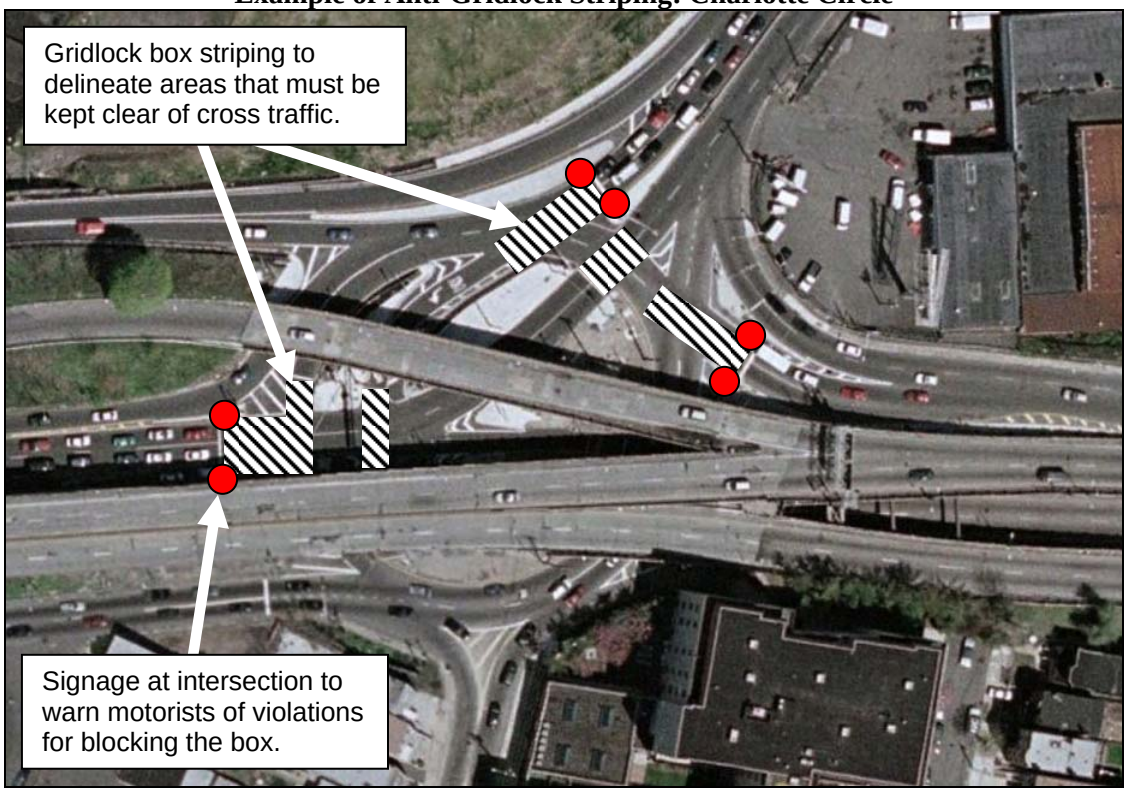
Similar to programs in place in New York City and Los Angeles, Hudson County could embark upon a public awareness campaign to minimize gridlock at some of the county's most congested intersections. In New York City, the "Don't Block the Box" campaign involves distinctive cross-hatch striping in intersections prone to gridlock. If drivers are caught in this box, i.e., beyond the stop line at their traffic light during the opposing street's green light cycle, they are subject to a fine and two points on their drivers licenses. While this applies to all intersections at all times throughout the city, traffic officers often concentrate enforcement issues on those intersections that are most consistently problematic, such as in Midtown or in the vicinity of the Holland and Lincoln Tunnels.

In Hudson County, numerous candidate areas exist, while three intersections stand out as candidates for this treatment: Charlotte Circle (Broadway, Tonnelle Avenue, Routes 1&9), JFK Boulevard & Sip Avenue, and JFK Boulevard & Newark Avenue.

As with other recommendations developed in this study, the key to success for anti-gridlock programs such as intersection striping is a combination of public awareness and strict enforcement. Paint alone will not prevent traffic from queuing and blocking opposing travel lanes. Only meaningful motor vehicle violations such as points on a license, combined with consistent and frequent enforcement, will encourage the desired response from motorists.

As with New York's program, the penalty for blocking the box should apply to (and be enforced at) all intersections and not only those striped for extra awareness. A full, county-wide anti-gridlock program would ultimately involve a comprehensive review of all key intersections, including traffic counts, level of service (LOS), and accident data, to establish a priority list of intersections to receive special markings and targeted enforcement. Complementary efforts such as rush hour construction bans in congested corridors such as Bergenline Avenue or JFK Boulevard, enhanced bicycle lane network, and continued application of ITS solutions to coordinate corridor signalization.

Figure 7-18
Example of Anti-Gridlock Striping: Charlotte Circle



In 2006, Los Angeles created its Gridlock Tiger Team, headed by the Los Angeles Department of Transportation (LADOT) and made up of Parking Enforcement and Traffic Control officers. Fifteen officers and 10 tow trucks search for peak hour parking violations, while at the same time penalties have been increased for parking in restricted lanes as part of a zero-tolerance policy. Violators' vehicles are towed at owners' expense, while parking violations can also carry fines of $65 (in addition to $144 and up for towing). To date, the Tiger Team program has been met with

favorable reviews as a serious attempt to crack down on parking and traffic violations in congested areas of the city.

Bus Stop Parking

While the concept of allowing parking in transit bus stops appears feasible when service is not operating, it is in fact in contradiction to the fundamental intent of improving transit and general traffic circulation within Hudson County. Much of what was learned throughout the study highlighted the need for diligent and constant enforcement at the local level to keep bus stops free of traffic. Many bus stops in the study area are currently inadequate in size, and those that are large enough to accommodate one or more buses are often blocked by parked cars or delivery vehicles. The result is that transit operators must pick up and discharge passengers from the roadway's travel lane, which both impedes other traffic and compromises the safety of passengers who cannot step directly to the curb.

Furthermore, consistency of rules and regulations pertaining to bus stops and parking is important across municipal boundaries. Bus stop locations regulations are determined by each municipality, yet the average motorist is unlikely to consider the varying degrees of legality from one town to another when deciding to park in a bus stop. Different bus routes also operate with a wide range of service hours. Busier routes such as NJ Transit's 1 Newark service operate almost a 24 hour schedule, leaving minimal time for legal parking, enforcement issues notwithstanding. While other routes may operate with less service, it is not uncommon for services to begin before 6am and continue past 11pm or midnight.

Therefore, it is recommended that no parking be permitted in bus stops at any time, and, conversely, enforcement of these no-parking regulations be vigilant at all times by local law enforcement officials.

Cost Assessment of Proposed Improvement Measures

Estimates for the cost of designing and implementing each of the specific proposed improvement measures in the study were calculated based on similar projects. The cost estimates are shown in $5,000 increments ranging from solutions of effectively no cost to about $100,000. Table 7-4 provides location information where each improvement will be implemented, a description of the improvement, the range of cost for each improvement, and the jurisdiction of each location. Improvements will be ranked according to their potential benefit, feasibility, and ease of implementation.

Table 7-4 – Cost Estimate Table

Location	Improvement	Cost Range	City/Township
Boulevard East & Ferry Road	Modify bus stops to improve transit operations.	$5,000 - $10,000	Guttenberg
Boulevard East & 60th Street	Add signage to improve bus stop operation.	$0 - $5,000	West New York
Bergenline Avenue (North of 47th Street)	Install left-turn lanes and move bus stops to reduce traffic blockages.	$95,000 - $100,000	West New York
Bergenline Avenue (Between 48th Street and 50th Street)	Modify signal cycle lengths to improve traffic progression.	$0 - $5,000	West New York
Bergenline Avenue (Between 31st Street and 47th Street)	Provide a bus lane to reduce traffic blockages.	$10,000 - $15,000	Union City
Bergenline Avenue (Between 31st Street and 33rd Street)	Provide wider lanes to increase capacity.	$5,000 - $10,000	Union City
Bergenline Avenue at 32nd Street	Improve intersection alignment.	$10,000 - $15,000	Union City
31st Street On-Ramp and westbound Route 495	Implement traffic diversion to improve ramp flow.	$35,000 - $40,000	Union City
West Side Avenue & Duncan Avenue	Prevent traffic blockages through enforcement.	$0 - $5000	Jersey City
West Side Avenue & Communipaw Avenue	Prevent traffic blockages through enforcement.	$0 - $5000	Jersey City
Newark Avenue & Palisade Avenue	Improve pedestrian crossing facilities. Modify signal timing.	$20,000 - $25,000	Jersey City
Montgomery Street & Center/Merseles Streets	Modify signal phasing to reduce delay.	$0 - $5,000	Jersey City
Mall Drive West (Newport Centre Mall)	Add enforcement to improve bus operations.	$0 - $5,000	Jersey City
Montgomery Street & Marin Boulevard	Modify signal offset to improve progression.	$0 - $5,000	Jersey City
John F Kennedy Boulevard	Modify signal plan to improve progression.	$5,000 - $10,000	Bayonne
Midland Avenue & Kearny Avenue	Re-stripe bus stop and remove parking to improve bus stop.	$0 - $5,000	Kearny
Washington Street	Install left-turn lanes and move bus stops to reduce traffic blockages.	$50,000 - $55,000	Hoboken

CHAPTER 8 RECOMMENDATIONS FOR BUS OPERATIONS AT EXCHANGE PLACE

Per request of the Jersey City Department of Housing, Economic Development and Commerce and the Hudson County Division of Planning, the study team reviewed bus operations at Exchange Place in Jersey City, a major transit hub and terminus for numerous local and express bus routes operated by NJ Transit and private carriers. This review was prompted by ongoing transit operational and traffic issues stemming from the closure of the bus turnaround loop at Exchange Place, east of Hudson Street at Montgomery Street and adjacent to the PATH rail station entrance.

Current Issues

In 2005, the bus turnaround at Exchange Place was closed to all traffic, requiring all transit buses serving Exchange Place from Montgomery Street (eastbound) to turn north on Hudson Street, west on Christopher Columbus Drive, and either continue west or make another left and right turn to return to Montgomery Street westbound. This maneuver results in several traffic conflicts, most notably the combination of two crossings of the Hudson-Bergen Light Rail (HBLR) tracks on Hudson Street and the left turns from Montgomery Street and Hudson Street. Buses are frequently delayed by light rail train crossings, or the buses themselves may get stuck in the intersections and thus exacerbate other traffic conflicts. Existing bus turning movements are shown in Figure 8-1.

The Exchange Place bus turnaround also provided vital peak hour bus stop and layover locations which are now shifted to Montgomery Street between Greene and Hudson Streets. Bus stops are situated on both the eastbound and westbound sides of Montgomery Street, and minimal layover space is available. During peak periods, buses use the south side (eastbound) of Montgomery Street to pick up and discharge passengers.

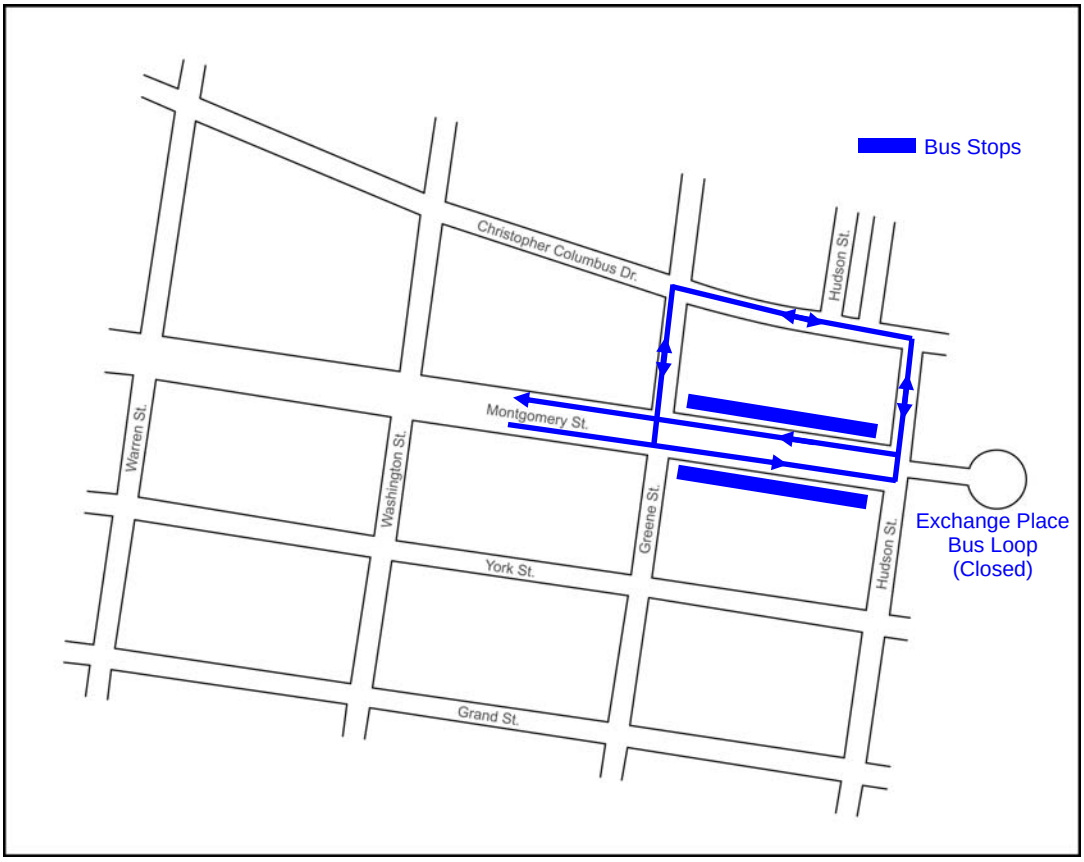
The closure of the bus turnaround loop has added bus volume to the already crowded Montgomery Street block between Greene Street and Hudson Street and it has increased the number of different transit routes serving this space, requiring greater segmentation of passengers at bus stops (i.e., assigning routes to specific bus shelters). Furthermore, the closure has also made it necessary to turn buses via Hudson Street and Christopher Columbus Drive, leading to the traffic conflicts and transit service delays outlined above.

NJ Transit's planning staff stressed the importance of maintaining sufficient layover space for buses that terminate at or near Exchange Place. Montgomery Street is the most feasible location (outside the bus loop) at this time, however some bus routes could be extended northward to the Pavonia/Newport area if turnaround and layover space could be arranged there. Such a route extension would have operating costs impacts, and in either location it is critical that the layover space is provided at the route's terminus.

It is estimated that roughly half of all bus passengers who disembark at Exchange Place work in the immediate area and half continue their commute to New York City via the PATH service or elsewhere in Hudson County via the HBLR. For this reason, maintaining convenient and close

transfers between bus and rail service, as well as convenient access to major employers in the vicinity of Hudson Street.

Figure 8-1 – Existing Bus Circulation



Operational Alternatives

While re-opening the Exchange Place bus loop remains the preferred solution, several alternate options exist to ameliorate the flow of bus transit in the area and maintain the effectiveness of the area as a transit hub.

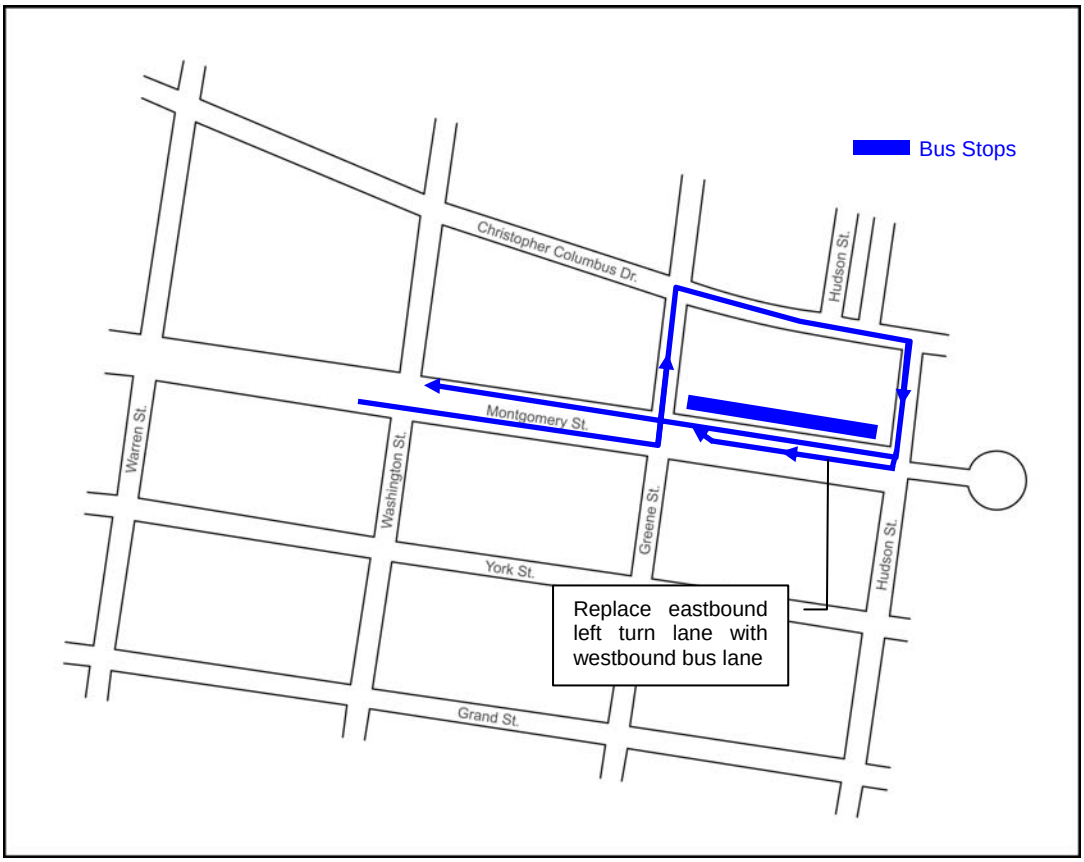
1. Montgomery Street between Greene and Hudson Streets could be modified to better accommodate the heavy transit volume or be converted into a transit-only block, at least during morning and evening peak periods. An appropriate level of traffic enforcement is required to prevent vehicles from idling or parking in bus stop locations. Any vehicles parked during off peak periods must be cleared before the peak /transit-only periods begin.

To avoid the traffic conflicts caused by buses turning left/north from Montgomery Street to Hudson Street, all bus traffic could reach Exchange Place via Christopher Columbus Drive, turn south on Hudson Street, and west on Montgomery Street. This would require additional space, given that the south/eastbound side of Montgomery Street would no longer be used for bus stops or layover positions.

To accommodate the added transit volume and layover space required, eastbound Montgomery Street could be reduced from three traffic lanes to two, providing westbound Montgomery with a lane to allow bus layovers and bus stops. Conversely, the median of Montgomery Street could be widened and converted into a bus platform/waiting area and the eastbound left lane could be converted into a contra-flow westbound lane for buses only. Montgomery Street currently has three eastbound lanes including a left turn-only lane, right turn-only lane, and a center lane that only serves to send traffic to the restricted bus loop east of the HBLR tracks. This lane does not serve a critical function at present and thus could become a left turn lane if the existing left turn lane is converted into a westbound bus lane.

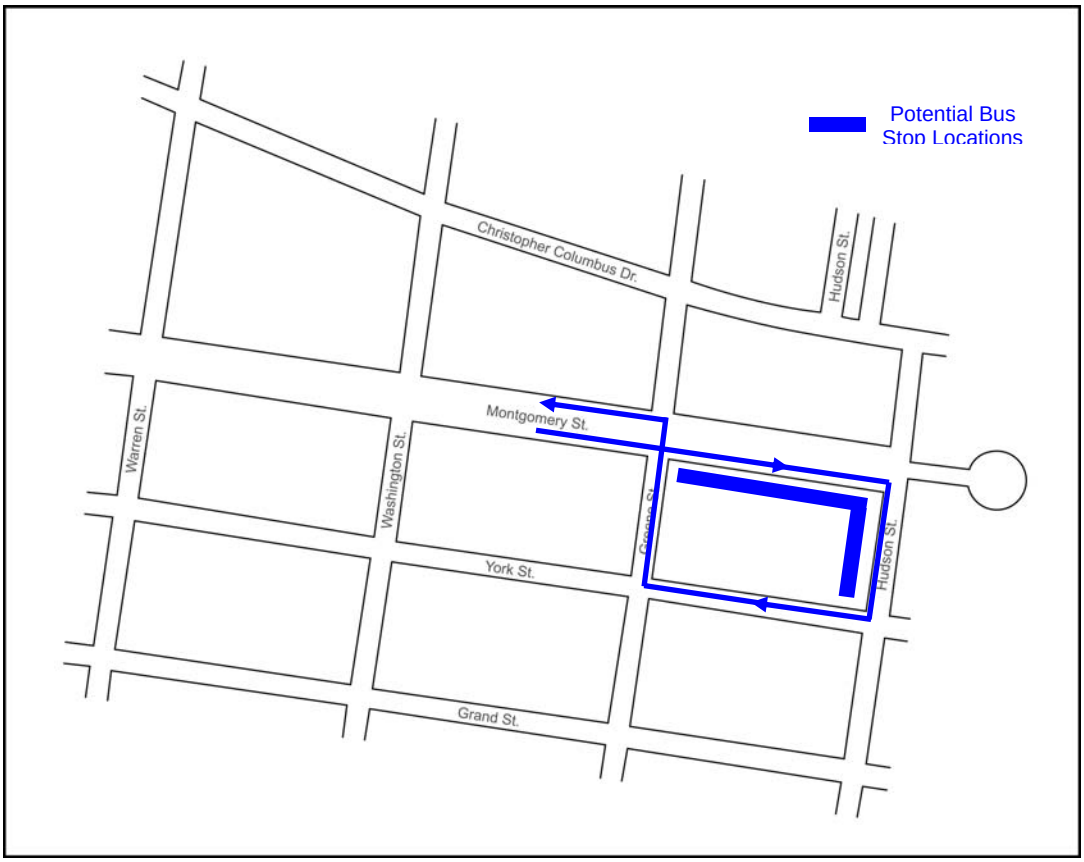
A contra-flow lane would provide additional bus stop and shelter space, although the traffic and safety impacts of such an operation (which would rejoin westbound Montgomery Street at or before Greene Street) would have to be studied in greater detail, including the possible need for mid-block pedestrian crossings and their feasibility. Furthermore, Jersey City anticipates level of service issues with the intersection of Greene and Montgomery Street in the next 10 to 20 years, underscoring the importance of transit access to the Exchange Place area in the future.

Figure 8-2



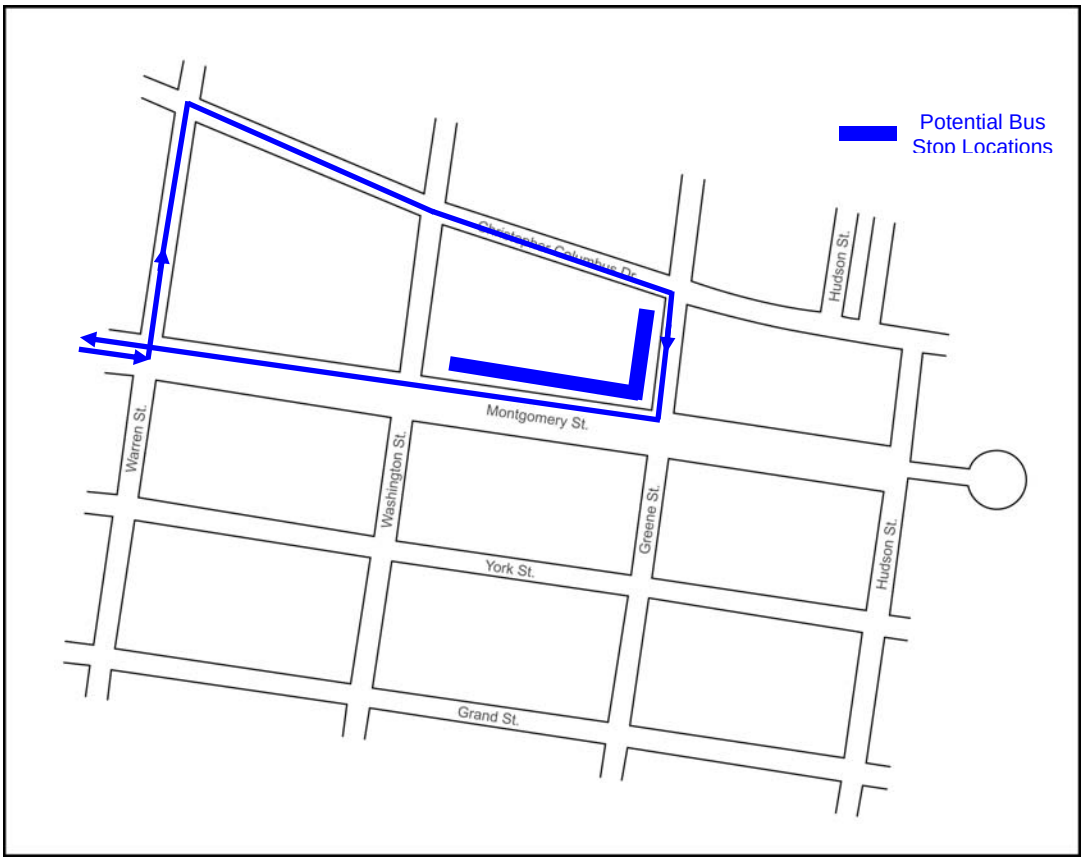
2. Eastbound bus services terminating at Exchange Place could continue to use Montgomery Street between Greene and Hudson Streets, as well as Hudson Street southbound between Montgomery and York Streets. This block, parallel to the HBLR right of way, does not afford as much space as Montgomery Street, however two or three buses could serve the block at any given time. The primary constraint may be sidewalk width and the ability to provide bus shelters as substantial as those installed on Montgomery Street. Operationally speaking, buses would require only right turns onto Hudson Street, York Street, and Greene Street, followed by one left turn onto westbound Montgomery Street, as shown in Figure 8-3.

Figure 8-3



3. Bus operators could use the block bounded by Montgomery Street, Greene Street, Christopher Columbus Drive, and Washington Street to turn, pick up and discharge passengers, and lay over between trips, space-permitting. This block is currently home to a senior residential complex, with on-street parking on all four sides of the block. Parking would have to be removed on at least the Montgomery and Greene Street frontages to allow transit operations. Washington Street runs one-way southbound, thus buses arriving eastbound on Montgomery Street would turn left/north on Warren Street then east on Christopher Columbus Drive.

Figure 8-4



The primary disadvantage of this or any alternative that shifts bus stops westward from the current block on Montgomery Street, is that it inconveniences transit customers by increasing the walking distance between the bus stops and the PATH station, HBLR station, and employment sites on Hudson Street. This change may also create conflicts with the current residential development on the block bound by Washington Street, Christopher Columbus Drive, Greene Street and Montgomery Street.

Recommendation

If the restoration of the bus loop at Exchange Place remains infeasible, the study team recommends further investigation of options number 1 or 2 presented above in Figures 8-2 and 8-3. Montgomery Street between Greene Street and Hudson Street should remain the focal point of transit operations serving Exchange Place. All bus traffic should enter Exchange Place via eastbound Montgomery Street or eastbound Christopher Columbus Drive and southbound Hudson Street. In all cases, strict enforcement of no-parking rules must be enforced and sufficient space must be maintained for bus stops and layovers to facilitate transit operations.

CHAPTER 9 TRANSIT SERVICE TO HUDSON COUNTY PLAZA

Hudson County Plaza, a planned reuse of the former Block Drug building, is expected to house a number of relocated Hudson County departments. Hudson County Plaza is located in Jersey City at the northeastern corner of Mill Road and Wayne Street, with additional access via Academy Street and Cornelison Avenue. The site is several minutes south of the Journal Square Transportation Center.

This move has prompted a look at transit services in the area, as the relocation will bring both county employees to the site as well as agency clientele. Because employees and clients will be coming from all over the county to access this building, convenient transit access is important. A one-seat ride to this location will be difficult to provide from most areas of the county since this site is a bit out of the way from major transit hubs in the county, however connecting service from Journal Square and various local bus routes will provide access.

Among the county departments moving into the site will be the Hudson County Sheriff's Office, 911 call center, a Chest Clinic, and the Department of Family Services, among others. Clients such as TANF/Medicaid and NPA (nutrition program) number in excess of 10,000, although most agency clients are not expected to visit the site on a daily basis.

Besides Hudson County Plaza, there is a public housing complex nearby and the former Jersey City Medical Center site which is being redeveloped into a major residential complex. Residents of the public housing complex have mentioned that they do need access to the Journal Square Transportation Center for access to PATH and other Hudson County buses for transit services throughout the county. While direct conversations with the developer of the former Jersey City Medical Center have not been held, stakeholders have mentioned that future residents of this site will likely want to have bus service to Journal Square, Grove Street, Exchange Place, and Pavonia/Newport.

Existing Transit Services

The location of Hudson County Plaza is too far from PATH or the Hudson Bergen Light Rail to be effectively served by these modes. Thus local bus service will be an important mode to get people to and from the Hudson County offices, as well as the residential areas mentioned above.

Currently there are three bus routes that operate within a close proximity to this area: Coach USA route 3, Coach USA route 99, and Montgomery and Westside. In the wake of recent service cutbacks, Coach USA Route 3 now operates every 30 minutes during peak periods and every 60 minutes during off peak, operating between Journal Square and the Jersey City/Bayonne border via Academy and Baldwin Streets. Coach USA Route 99 operates every 30 minutes all day, operating between the Port Authority Bus Terminal in New York City and the Jersey City/Bayonne border via Summit Avenue. To date, the study team has been unable to obtain detailed service information on the Montgomery and Westside route.

Potential Service Changes

Both Coach USA and Montgomery and Westside, as operators of the local bus service, will need to be included in any discussion on route changes to serve this area. The Hudson County Plaza facility is expected to be operational by the end of 2008, thus it is imperative that negotiations begin with Coach USA to provide service as soon as possible. The following preliminary changes are recommended to serve this area:

- Change Coach USA Route 3 to operate past the Hudson County Plaza site. In the southbound direction, the route will continue on Academy Street past Baldwin, left on Wayne Street, right on Cornelison Avenue, right on Fairmount Avenue, and left on Summit Avenue to resume its normal route. In the northbound direction, the route will do the exact reverse.

  The areas of Baldwin Avenue and Summit Avenue that are no longer directly served by this route, a distance of ½ mile, are within a close walking distance to Coach USA Route 99 and not too far of a walk to the proposed routing of Coach USA route 3. This will provide a direct access between this area and the Journal Square Transportation Center, as well as to the Hudson Bergen Light Rail at Garfield Avenue. At the southern terminal of Coach USA Route 3 connections are available to routes into Bayonne. Ridership levels will need to be monitored to ensure that proper service levels are provided.

- No change is recommended to Coach USA Route 99, although ridership needs to be monitored to ensure that proper service levels are being provided.

- A change to the Montgomery and Westside route could be considered, however the diversion necessary for this route would likely cause greater inconvenience to through passengers on the Montgomery Street corridor. This change would have eastbound buses turning left on Mill Road, right onto Wayne Street, right onto Cornelison Avenue, left onto Florence Street, and left to resume the regular route onto Montgomery Street. The westbound service would do the exact reverse of the eastbound.

  This change may not be necessary as the site of Hudson County Plaza is not too far north from Montgomery Street, and it may impact access to service for people moving to the former Jersey City Medical Center. If this route does not serve Pavonia/Newport, an extension would be worthy of further investigation. Ridership levels will need to be monitored to ensure appropriate service levels are provided along this route.

- In addition to modifications to the private bus operators' routes in the area, a dedicated shuttle bus service may be eligible for funding through the Congestion Mitigation Air Quality (CMAQ) program. CMAQ-eligible projects, including shuttle programs, are generally able to pursue funding for several years, including both capital and operating costs. A shuttle to Exchange Place would offer an alternative to the rerouting of Montgomery & Westside bus service as mentioned above, as well as service to Journal Square in the event that Coach USA is not willing or able to reroute service in the area. Similarly, CMAQ funding may also be pursued as a means of subsidizing rerouted or increased Coach USA

service; the funding could be applied to either a new-start shuttle program or support for existing/modified fixed route service.

Transit and Pedestrian Access

A unique design element of Hudson County Plaza is the separation of entrances to the building for various county departments and agencies. In an effort to both simplify access as well as maintain separation of certain populations as a security precaution, entrances to the site are to be provided at both the upper and lower levels. The building is set on a hill, thus the grade separation of its southern and western/northern facades allows for this separation of entrances. For this reason, it is imperative that employees and clients arriving via public transit, as well as pedestrians visiting the site, be afforded convenient access at both the top (Mill Road/Academy Street) and bottom (Cornelison Avenue) of the hill. Existing transit services and the proposed rerouting of Coach USA's Route 3 service are shown in Figure 9-1 on the following page.

During this study, the Division of Planning and the study team worked with the Hudson County Office of the County Engineer and the Chief Architect for Hudson County Plaza to ensure this access would be included in the site planning process. As a result, bus stops and shelters are to be installed at the northwest and southeast corners of the site for both northbound and southbound transit service. These two stops will allow visitors and employees the option of entering the site at the highest elevation where Academy and Mill Streets join, or at the corner of Wayne Street and Cornelison Avenue at the bottom of the hill.

Figures 9-2 and 9-3 highlight these bus stops on the Hudson County Plaza site plan.

Figure 9-1 – Transit Access to Hudson County Plaza

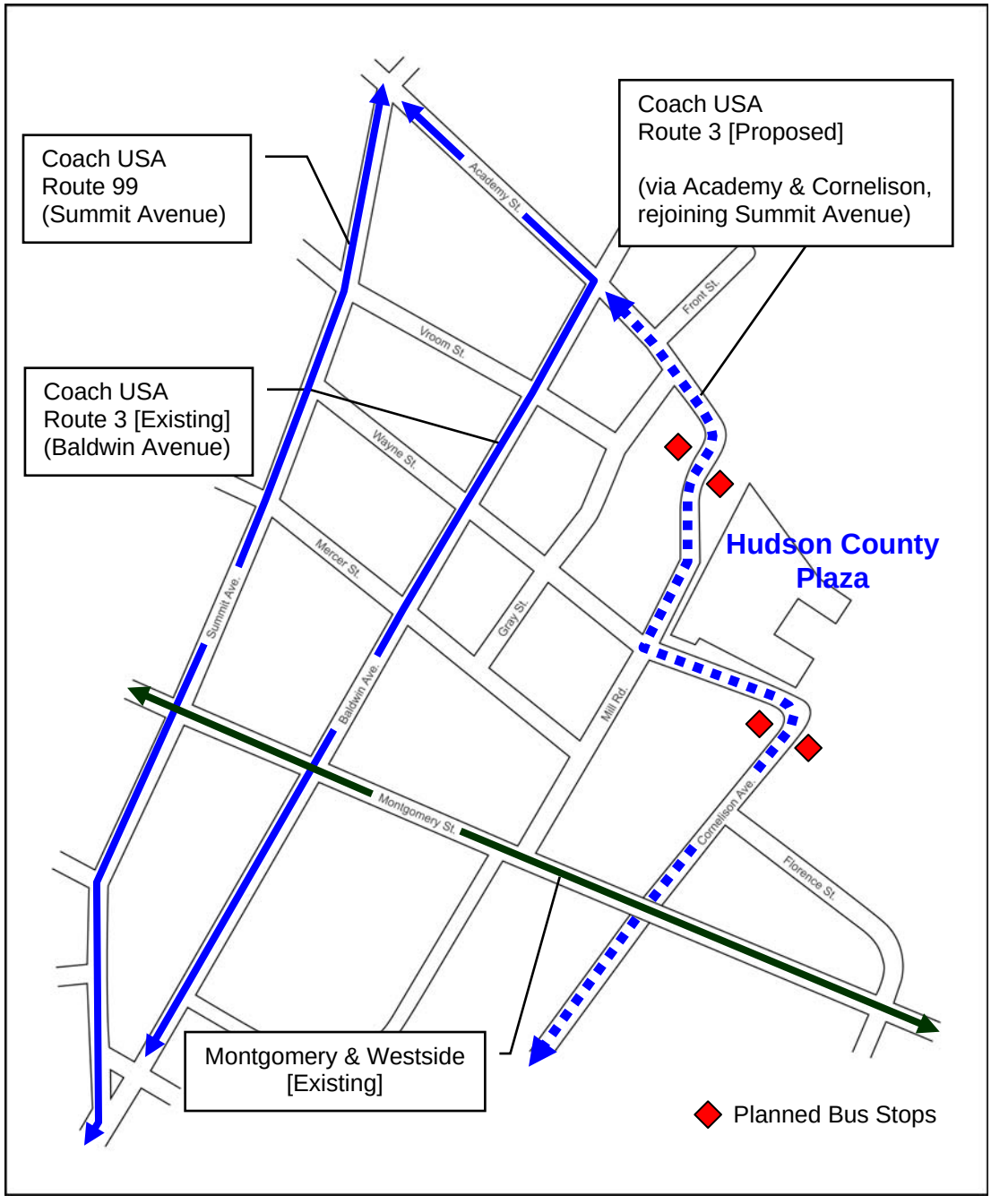


Figure 9-2
Mill Road Bus Stop Locations
Hudson County Plaza Site Plan

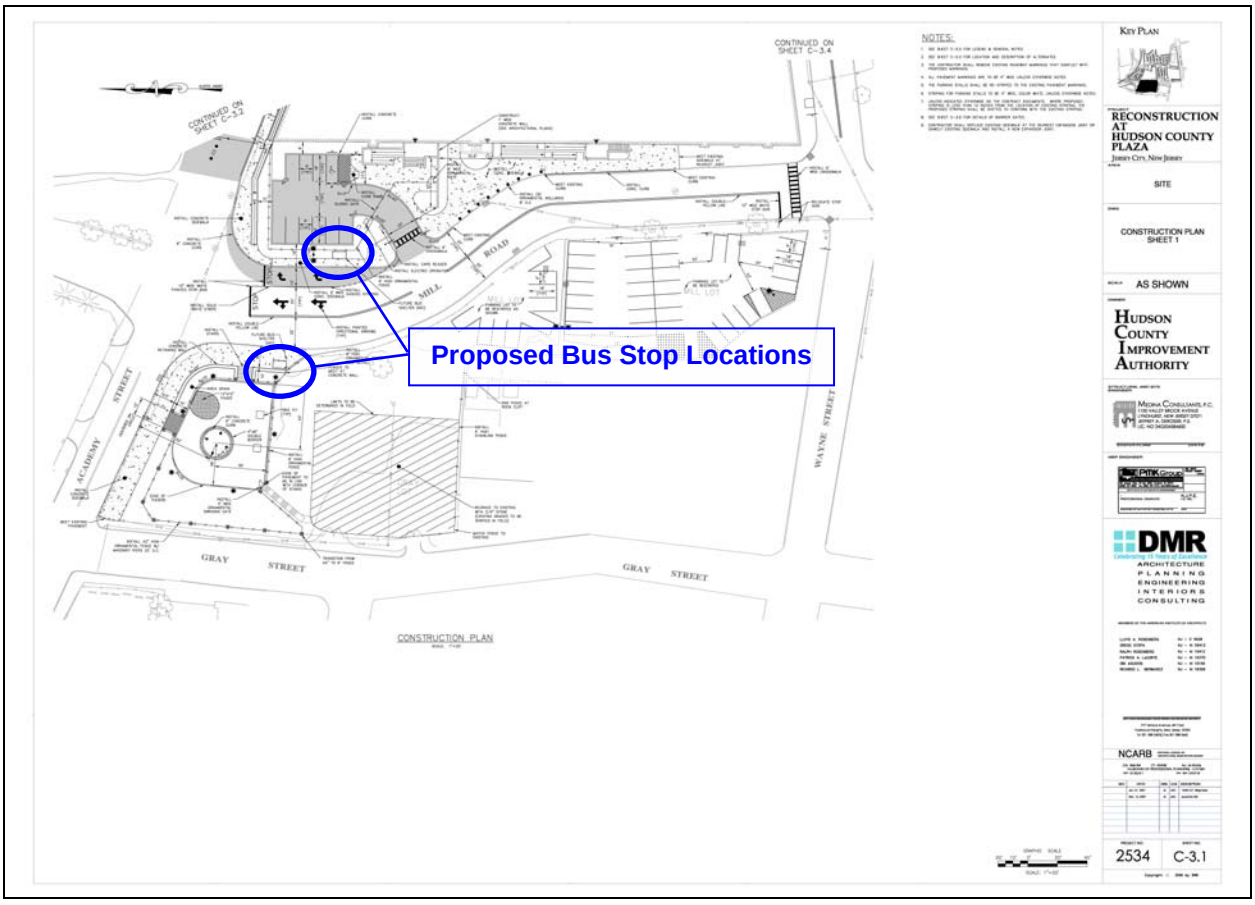
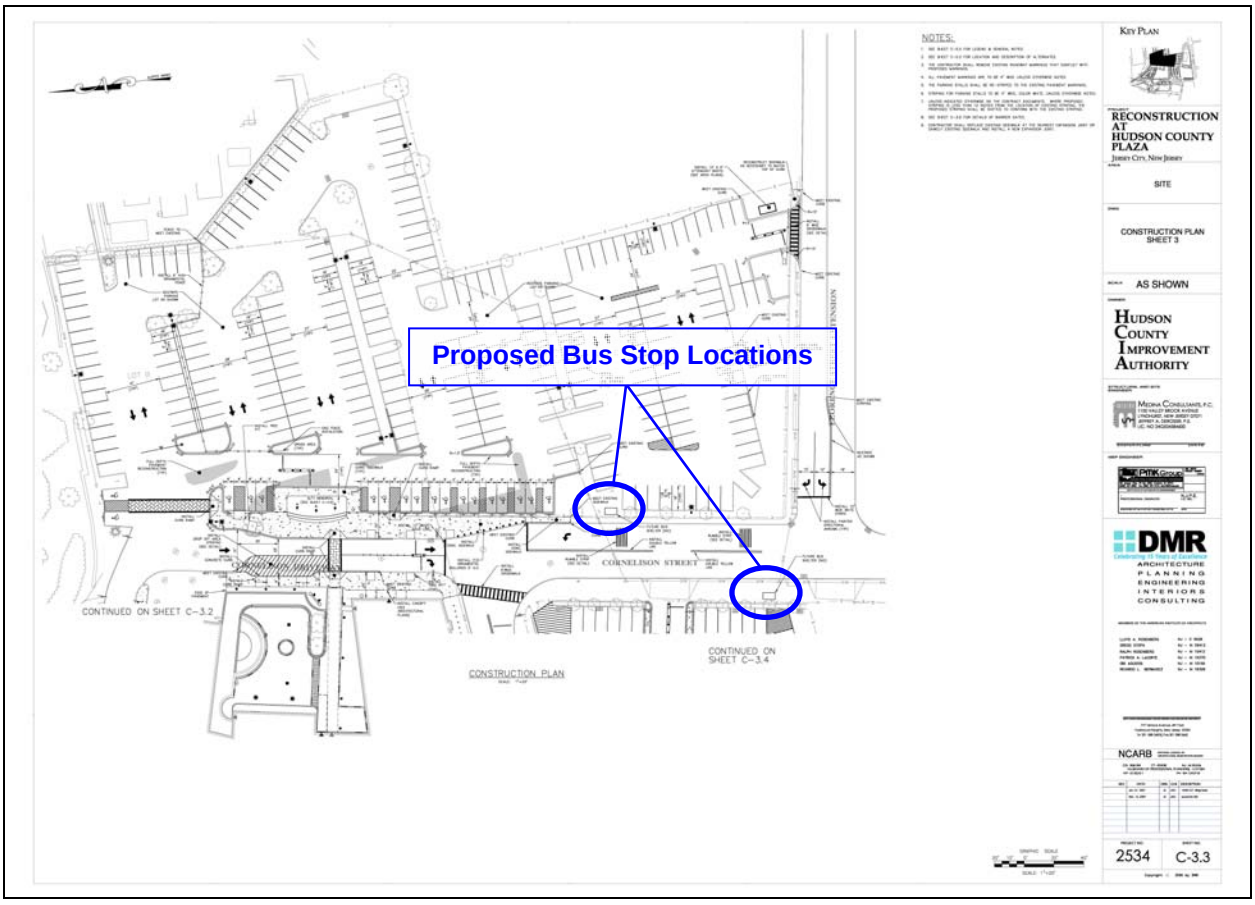


Figure 9-3
Cornelison Avenue Bus Stop Locations
Hudson County Plaza Site Plan



Employee and Client Origins

For the purposes of this study, employee and client eligibility were provided from the Hudson County Plaza Transportation Survey, via the Hudson County Welfare Agency. Most employees currently arrive to the sites around Journal Square, and this is expected to remain the primary transit hub for clients and employees when the facility is fully operational. The majority of both employees and clients live in Jersey City. Employee and client origins are displayed by ZIP Code in figures 9-4 through 9-6. Again, access to Hudson County Plaza via transit will be most feasible through connections at Journal Square (for Coach USA Route 3 south) or Exchange Place (for Montgomery & Westside service or possible dedicated shuttle to HCP).

Figure 9-4

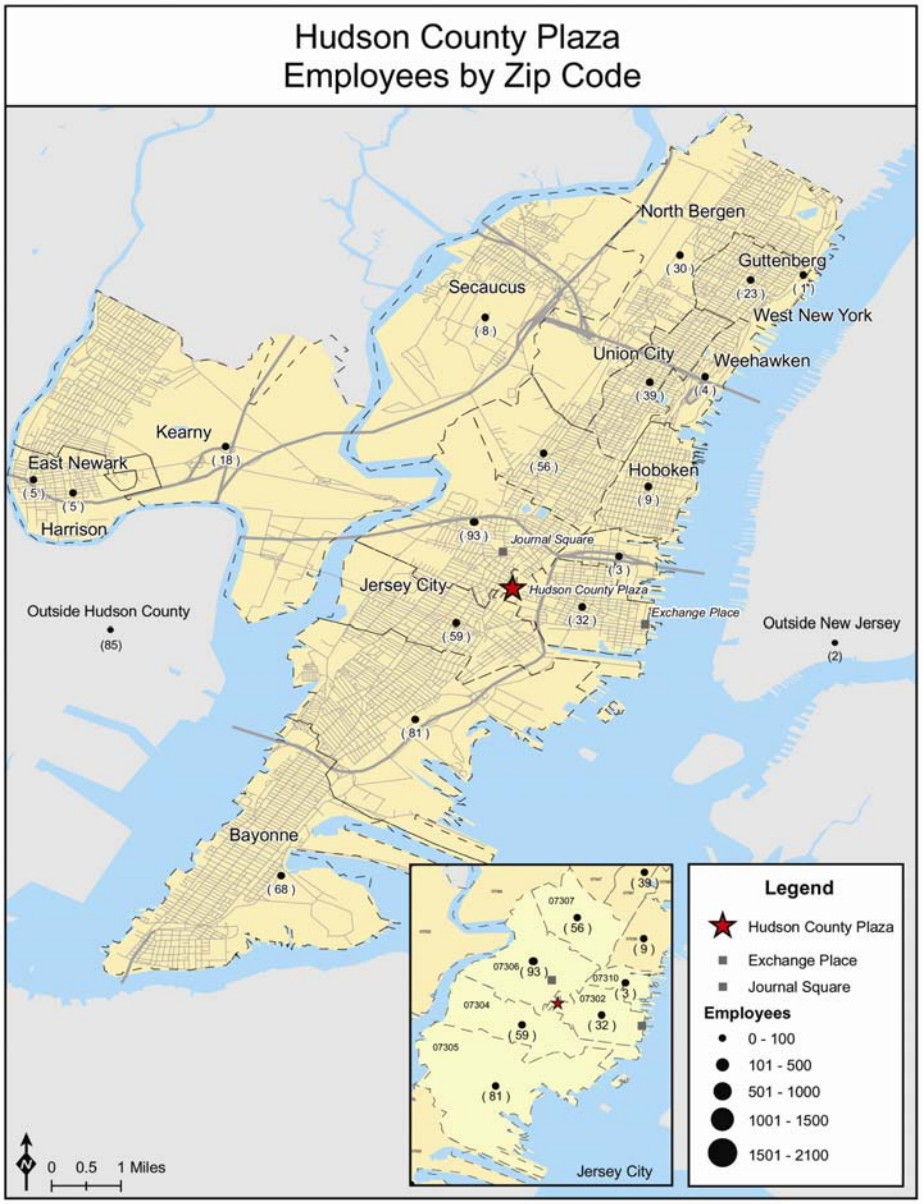


Figure 9-5

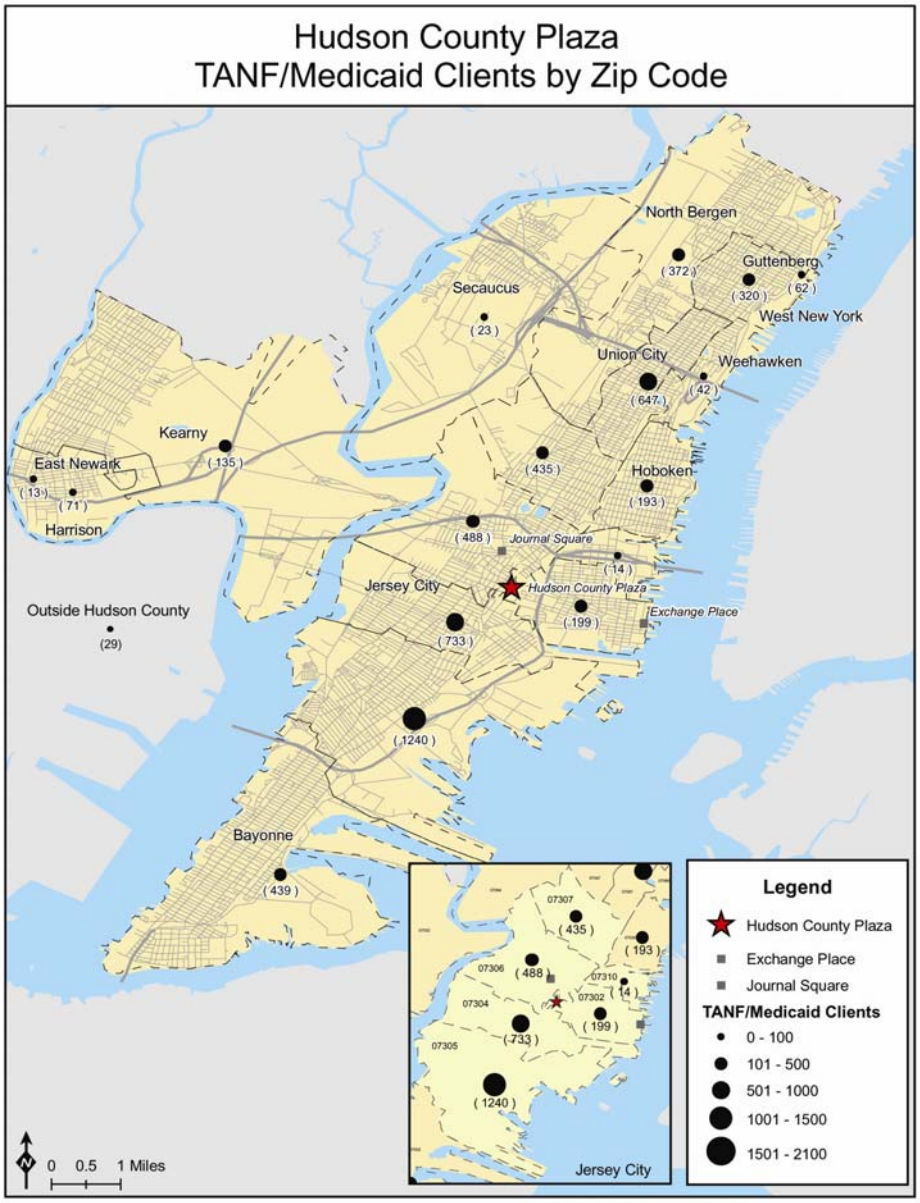
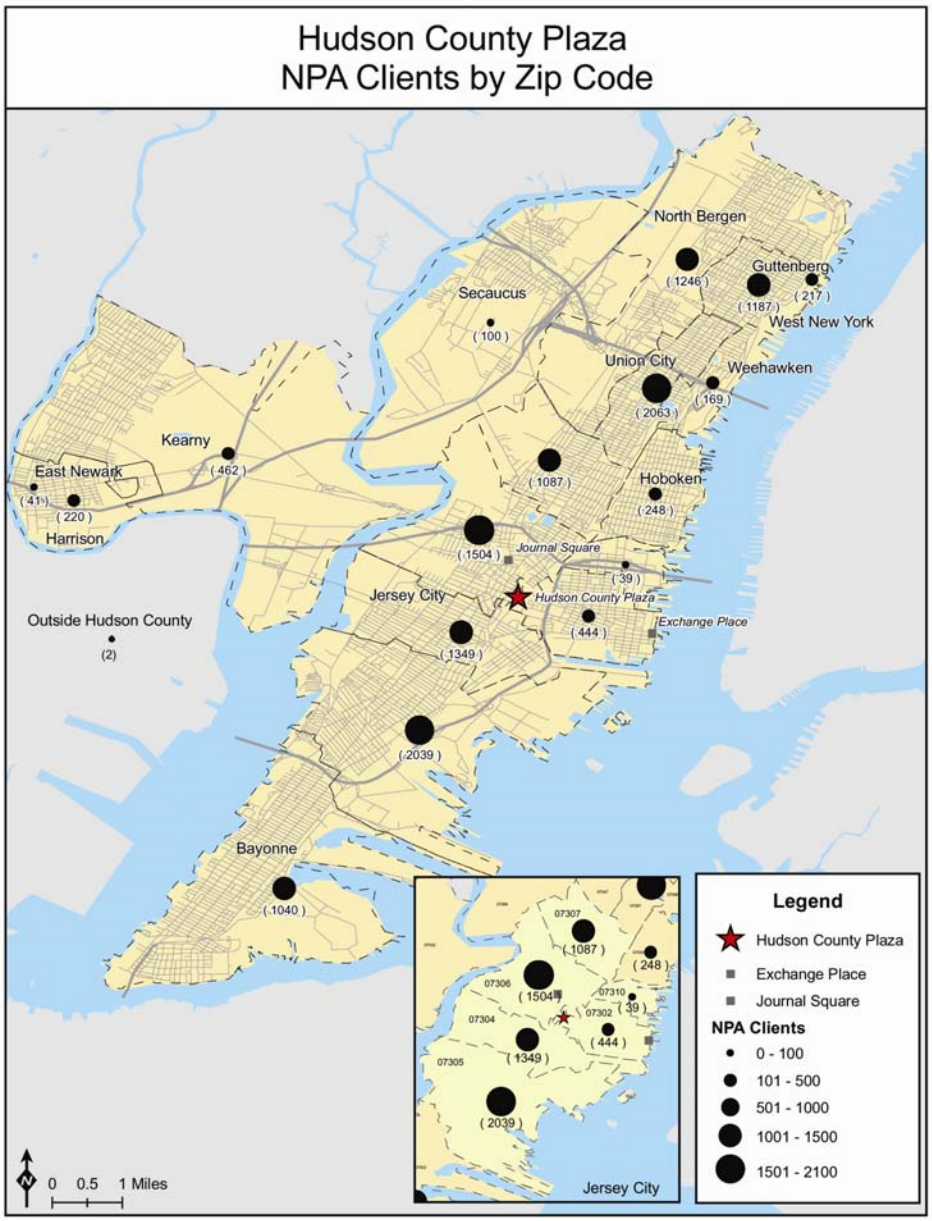

Hudson County Plaza
TANF/Medicaid Clients by Zip Code
North Bergen
(372)
Guttenberg
(320)
(62)
West New York
Secaucus
(23)
Union City
(647)
Weehawken
(42)
Kearny
(135)
East Newark
(13)
(71)
Harrison
(435)
Hoboken
(193)
(488)
Journal Square
(14)
Jersey City
Hudson County Plaza
(199)
Exchange Place
Outside Hudson County
(29)
(733)
(1240)
Bayonne
(439)
07307
07306
07310
07302
07304
07305
Jersey City
Legend
Hudson County Plaza
Exchange Place
Journal Square
TANF/Medicaid Clients
0 - 100
101 - 500
501 - 1000
1001 - 1500
1501 - 2100
0 0.5 1 Miles

Figure 9-6


Hudson County Plaza
NPA Clients by Zip Code
North Bergen
(1246)
Guttenberg
(1187)
(217)
West New York
Secaucus
(100)
Union City
(2063)
Weehawken
(169)
Kearny
(462)
East Newark
(41)
(220)
Harrison
(1087)
Hoboken
(248)
(1504)
Journal Square
(39)
Jersey City
Hudson County Plaza
(444)
Exchange Place
Outside Hudson County
(2)
(1349)
(2039)
Bayonne
(1040)
07307
07306
07310
07304
07302
07305
0 0.5 1 Miles
Legend
Hudson County Plaza
Exchange Place
Journal Square
NPA Clients
0 - 100
101 - 500
501 - 1000
1001 - 1500
1501 - 2100

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