

IV. CIRCULATION PLAN ELEMENT

INTRODUCTION

From the earliest colonial period to the modern era, communities have developed in locations where the prevailing mode of transportation provided local mobility, access to markets and links to other communities as well as regions. During the 18th century, towns and cities clustered along bodies of water served by ships, ferries and ports. In the 19th century, towns and cities evolved along rail lines served by stations, terminals and yards. During the 20th century, towns and cities grew in locations served by roads, highways and interchanges. In each case, transportation has played a central role in the development and well being of the community in question.

New Brunswick is fortunate to be served by an extensive transportation system consisting of roads and highways, mass transit and bicycle/pedestrian facilities. The City's transportation system is a critical component of the City's economy and its on-going revitalization efforts. Further improvements to the City's transportation system as will enhance the City's revitalization efforts and the quality of life of its residents.

New Brunswick has superior access to the regional transportation system. The City of New Brunswick is located within the New York-Trenton-Philadelphia transportation corridor, approximately midway between New York City and Philadelphia. The City is traversed by three regional roadways: the N.J. Turnpike; U.S. Route 1; and State Route 18 and is served by New Jersey Transit's Northeast Corridor Line along which are located two passenger railroad stations within the City (i.e., the New Brunswick and Jersey Avenue stations). The City is also served by an extensive bus transit system.

New Brunswick is, in fact, located at somewhat of a crossroads for major regional and subregional transportation routes. The local roadway network, together with the mass transit facilities, make New Brunswick an important subregional transportation hub (in addition to its role as a governmental center, a regional center of employment and commerce, the location of the State's flagship university, location of world-class health care facilities, and home to almost 50,000 people). All of these factors place a considerable burden on the transportation network.

EXISTING CONDITIONS AND PLANNED/PROPOSED IMPROVEMENTS

Vehicular Traffic Circulation

As indicated above, the City of New Brunswick has excellent access to the regional highway network. Principal access to and/or from Route 18 within the City is gained via the Albany Street (Route 27), New Street, Commercial Avenue, and Georges Street interchanges. Direct access to Route 1 within the City is provided by the Route 1/Route 18 interchange located in the eastern portion of the City. Access to/from Route 1 to the southern parts of New Brunswick is provided via the following Route 1 interchanges: Ryders Lane; College Farm Road; Milltown Road; Georges Road; Livingston Avenue; and Jersey Avenue. N.J. Turnpike Interchange 9, located in neighboring East Brunswick Township, is located less than one-half mile from the City's border and is accessible by Route 18. Access to Interstate Route 287 to/from the City is gained via Easton Avenue (Route 527) in Franklin Township and Route 18 in Piscataway Township.

The Roadway System

Streets and roadways are classified according to a hierarchy that identifies function by the amount and type of traffic expected and the type of access allowed. Each roadway in the City can be classified

according to the function it performs. Once classified, roads can be analyzed to determine whether they are fulfilling their intended purposes, and recommendations can be made for changes to each level of classification. This hierarchy serves to create a network that can be systematically and methodically studied for possible improvements.

The following section contains the various roadway classifications and their locations in the City. A brief description of the function and present traffic conditions for each major roadway is included. The *Road Classification* map presents this information.

Freeways

Freeways are designed to handle regional travel and receive the most traffic each day. Pedestrian and bicycle access is not provided to the roads. Freeways offer limited or no access to abutting land uses. Access is generally provided from major streets at interchanges. The New Jersey Turnpike runs through the northeast corner of the City. As indicated above, N.J. Turnpike Interchange 9, located in neighboring East Brunswick Township, is located less than one-half mile from the City's border and is accessible by Route 18. As might be expected, the

Turnpike carries by far the largest amount of traffic of any road that traverses the City with average daily traffic of over 160,000 as of the year 2000. The portion of Route 18 north of Albany Street is also characterized as a freeway.

Principle Arterials

Principle Arterials are designed primarily to handle mainly automobile traffic and contain few direct access points to local uses. Principle arterials provide major local and inter-municipal movements and commonly provide access to freeways and expressways. In order to preserve their traffic carrying capacity, the number of intersections, driveways, and frontage activity are generally minimized along these streets. Such roads typically serve as primary means of circulation within and through a City and are expected to handle substantial volumes of local and through traffic. The following roadways within the City are principle arterials:

- o U.S. Route 1;
- o N.J. Route 18 south of Albany Street;
- o N.J. Route 27 (Albany Street/ French Street/ Somerset Street/ Lincoln Avenue); and
- o Easton Avenue.

Minor Arterials

Minor arterials handle a larger share of access to local uses and are more pedestrian-friendly. Minor arterials, typically under County and local jurisdiction, connect lower level streets with principle arterial roads and freeways and also act as alternate routes for primary arterial roads. They usually are designed to serve smaller commercial and residential districts with lower speed limits as well as have narrower rights of way and shallower building setbacks than primary arterials. The following roadways, or portions of roadways, within the City are classified as minor arterials:

- o George Street;
- o Hamilton Street;
- o Landing Lane;
- o Johnson Drive;
- o Memorial Parkway from Albany Street to Route 18;
- o Jersey Avenue;
- o Livingston Avenue;
- o Georges Road;
- o Suydam Street from Commercial Avenue to Livingston Avenue;
- o Ryder's Lane
- o Commercial Avenue from Sandford Street to Route 18;
- o Clifton Avenue from Route 18 to Ryders Lane;
- o Ryders Lane; and
- o New Street from Route 18 to Ryders Lane.

Collector Streets

Collector streets provide access between local destinations and larger arterials. They tend to be very pedestrian-oriented with lower speed limits. Collector streets are usually maintained by municipalities, although some are under county maintenance. In comparison to larger arterials, collector streets commonly have lower speed limits and commonly have a better pedestrian environment. The following roadways, or portions of roadways, within the City are classified as collector streets:

- o Nichol Avenue from Hale Street to George Street;
- o Sandford Street from Georges Road to Joyce Kilmer Avenue;
- o Joyce Kilmer Avenue;
- o Remsen Avenue;
- o Suydam Street from Livingston Avenue to French Street;
- o Handy Street from Livingston Avenue to French Street;
- o New Street from Neilson Street to Joyce Kilmer Avenue;
- o Neilson Street from Albany Street to New Street;
- o Somerset Street from French Street to George Street;
- o College Avenue;
- o Louis Street;
- o Courtland Street;
- o Burnet Street east of Route 1; and
- o How Lane.

Local Roads

The rest of the City of New Brunswick's streets are classified as local streets. Local streets provide direct access to specific land uses and receive less traffic than other roadway classes. Trucks are usually prohibited on most local streets for pedestrian safety. Local streets are usually maintained by municipalities. They are typically shorter in length than the other classifications and usually provide access to individual properties. Local streets carry low levels of traffic, have very low speed limits, and are often narrower than collector streets. They can have shallower setbacks and narrower rights of way than the other classifications because there is less need to separate buildings from traffic. The use of these streets by the residents in non-vehicular functions helps maintain the identity of the neighborhood.

The road network consists of local, county and state roads. The City generally maintains jurisdiction of the road system within the City limits unless the roadway is under the jurisdiction of the New Jersey Department of Transportation (DOT) or the County of Middlesex. The NJ Turnpike is under the jurisdiction of the New Jersey Turnpike Authority. U.S. Route 1 and the "State routes" are under the jurisdiction of the New Jersey Department of Transportation.

Roadway Conditions/ Traffic Issues

The City of New Brunswick has a dense network of roads under municipal and County jurisdiction that provide local circulation, significant access to development and connections to the City's highway network. The majority of these roads are classified as minor arterials, collectors and streets in recognition of their emphasis on land access as well as mobility. They are an important element of the City's transportation system because they are found in every neighborhood and provide circulation as well as links to activity centers, community resources and residential areas. The majority of County and local roads in New Brunswick were constructed in the in the earlier part of this century and are not designed for current traffic volumes. As a result, County and local roads are impacted by traffic congestion, excessive physical deterioration and safety problems. When the roads are located in residential areas, these conditions often diminish the quality of life experienced by residents.

In addition, as indicated above, New Brunswick's location at a confluence point of several major regional and subregional transportation routes makes New Brunswick an important transportation hub. This role is in addition to its role as a governmental center, a regional center of employment and commerce, the location of the State's flagship university, location of world-class health care facilities, and home to almost 50,000 people). All of these factors place a considerable burden on the roadway network. New Brunswick's continued growth and improvement

(as evidenced in part by the growth in population and employment experienced in the City) has certainly contributed to increases in traffic. These increases have coupled with traffic increases resulting from growth that has occurred throughout the region (e.g., the 12% population growth in Middlesex County as a whole through the 1990's and population increases in all communities adjoining the City).¹ As a result there exists continued concern about the levels of traffic congestion on the regional roadways that bring traffic into and through the City (e.g., the Turnpike, Route 18, Route 1), as well as on the more local roadways serving the City (e.g., Easton Avenue, Route 27, George Street, etc.).

It is obvious that continued development and revitalization of the City, as well as employment and population growth in the City and surrounding communities, will likely increase traffic within the City and place a greater burden on the existing circulation system. The existing traffic congestion and potential for increased congestion is a major concern because it is perhaps the most obvious impact of land development, has the potential to negatively affect the quality of life, and may pose a constraint to continued revitalization.

¹ Other factors such as increases in car ownership per household, vehicle miles traveled, increases in number of vehicle trips per day, etc. also likely contribute increases in regional traffic.

A number of studies² and plans have been commissioned over the last few years to study the existing traffic circulation issues facing the City and to make recommendations to address these issues.

Regional Access

These studies and plans indicate that the most pressing traffic circulation issues concern the major access corridors accommodating traffic into and out of the City, including the Turnpike, Route 18, Route 27 and Route 1. These roadways carry the greatest amount of traffic through the City. Obviously, the Turnpike carries the greatest amount of traffic through the area with average daily traffic of over 160,000 vehicles as it runs through the City. Route 18 and Route 1 carry the next greater level of traffic. For example, Route 1 (on the bridge over the Raritan River) has average daily traffic of over 95,000 vehicles.

² These studies include: "New Brunswick Traffic and Parking Improvement Study" prepared by Edwards and Kelsey (1998); "Route 27/Renaissance 2000 Corridor Study" prepared by Orth-Rodgers & Associates, Inc (1997); "Traffic Circulation Plan Study for the City of New Brunswick, Phase I – Medical District" prepared by the Louis Berger Group (2002). In addition, the Middlesex County Department of Planning – Transportation Division provides an evaluation of roadway conditions and makes recommendation in documents they produce including the "Middlesex County Transportation Plan (1999) and "Middlesex County Annual Report on Transportation" (2003).

As important links to the rest of the region, traffic issues on these major access corridors have potential to significantly affect New Brunswick. The Middlesex County Department of Planning – Transportation Division has identified the following issues related to the major roadways providing access to the City:

- o The following roadway segments serving New Brunswick have been identified as the "Most Congestion Prone" (having the highest volume-to-capacity ratios):
 - NJ Route 18 from the George Street ramp through New Brunswick in Piscataway;
 - NJ Route 18 from Tices Lane in East Brunswick to US 1 in New Brunswick;
 - US 1 south of the City line in North Brunswick; US Route 1 north of the City line in Edison.

These road segments tend to face more than the occasional incident-related backup or tie-up at one problem intersection.

- o The following roadway segments serving New Brunswick have been identified as "More Prone to Congestion":
 - The length of US Route 1 through the City;
 - NJ Route 18 from US Route 1 to the George Street ramp;
 - NJ Route 27 north of the City line into Highland Park and into Piscataway;

- NJ Route 27 south of the City line at How Lane;
- Georges Road between Route 1 and the City line.

These road segments also tend to face more than the occasional incident-related backup or tie-up at one problem intersection.

- o The Middlesex County Transportation Plan also identified the following congested corridors of note based on field experience and a history of problems:
 - NJ Route 27 (Lincoln Avenue/ Somerset Street/ French Street/ Albany Street) – Its entire length through the City;
 - County Route 527 (Easton Avenue) – From Landing Lane to NJ Route 27 (Albany Street) in the City;
 - County Route 609 (Landing Lane) – From Easton Avenue in the City into Piscataway;
 - County Route 672 (George Street) – From NJ Route 27 (Albany Street) to Clifton Avenue in the City; and
 - County Route 680 (How Lane) – From NJ Route 27 to Livingston Avenue in the City.

Local Roadways

All cities experience traffic congestion and localized traffic problems (e.g., insufficient intersections, roadways in need of improvement). Traffic is, in part, a testament to the City's success as a place to live, work, learn and play. However, traffic congestion is an annoyance that may affect

resident's perception of the quality of life in the City. Other problems, such as those related to roadway and intersection safety are more serious. Traffic issues abound as well within the City (i.e., not just on the major roads providing access to the City). The Middlesex County Transportation Plan, "New Brunswick Traffic and Parking Improvement Study," "Route 27/ Renaissance 2000 Corridor Study" and the "Route 1 Corridor Collaborative Study" prepared by NJDOT recommend a number of roadway and intersection improvements within the City³ including the following (many of which were recommended in more than one of the studies):

- o Commercial Avenue – Intersection improvement at intersection with Route 18;
- o Route 18/ Route 1 Interchange Area – Signalization changes at Route 18/ Paulus Boulevard to improve traffic flow;
- o Easton Avenue – Signal synchronization and operational improvements from Landing Lane to Albany Street;
- o Easton Avenue – Physical and operational improvements at intersection with Albany Street;
- o Easton Avenue – Intersection improvement at intersection with Landing Lane and Franklin Street;

³ The "New Brunswick Traffic and Parking Improvement Study" and "Route 27/ Renaissance 2000 Corridor Study" contain detailed discussions of the recommendations contained in each document.

- o Easton Avenue – Intersection improvement at intersection with Hamilton Street;
 - o George Street – Signal synchronization and operational improvements from Hamilton Street to Nichol Avenue;
 - o George Street – Intersection improvements at intersections with Somerset Street, Hamilton Street, Nichol Avenue, Morris Street, Clifton Avenue in vicinity of Gibbon jughandle (involving realignment and reconstruction of the jughandle), New Street, and Paterson Street;
 - o George Street – Designate area for drop-off activity to facilitate traffic flow;
 - o Georges Road/ Sanford Street/ Jones Avenue Intersection – Alignment and other improvements are needed at this intersection;
 - o Livingston Avenue – Physical and operational improvements at intersection with New Street;
 - o Livingston Avenue – Intersection improvement at intersection with How Lane (this intersection was identified as a particularly problematic intersection or “hot spot,” having potential to create tremendous back-ups during peak commuting periods);
 - o Jersey Avenue Station Access Road – New alignment from Route 27 to Jersey Avenue in the vicinity of the Jersey Avenue train station;
 - o Jersey Avenue – Intersection improvements at intersections with Jersey Avenue and Handy Street;
 - o Jersey Avenue – Intersection improvement at intersection with How Lane;
 - o New Street – Physical and operational improvements at intersection with Nielson Street;
 - o New Street – Physical and operational improvements at intersection with Kirkpatrick Street;
 - o New Street – Physical and operational improvements at intersection with Joyce Kilmer Avenue;
 - o NJ Route 27 (Somerset Street) – Intersection improvements at intersection with Oliver Street/ Franklin Boulevard;
 - o NJ Route 27 (Somerset Street) – Intersection improvements at intersection with French Street/ Somerset Street;
 - o NJ Route 27 (Somerset Street) – Intersection and capacity improvements at intersection with How Lane;
 - o NJ Route 27 (French Street) – Intersection improvements at intersections with Jersey Avenue and Handy Street; and
 - o NJ Route 27 (French Street) – Intersection improvements at intersections with Suydam Street/ Louis Street.
- As discussed below, a number of these issues are already being addressed.

Planned or Proposed Projects

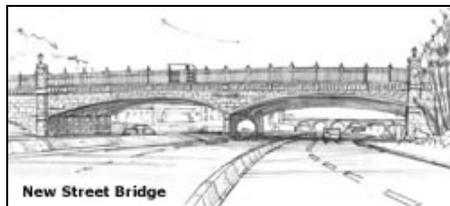
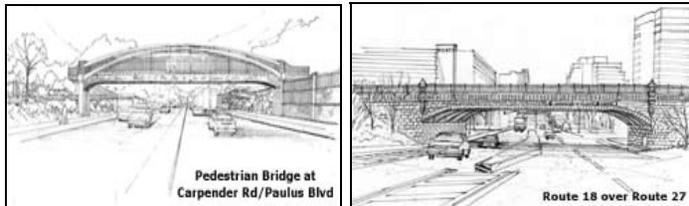
The following roadway projects would potentially impact the City of New Brunswick:

- o Route 18 Improvements (between Route 1 and the Northeast Corridor Amtrak Line north of Route 27) in New Brunswick. Route 18 in New Brunswick will undergo long-awaited major reconstruction and related improvements to motorist, pedestrian and bicyclist safety following the award of a contract in late 2004. In Summer 2004 the utility companies will do their work in preparation for the reconstruction. This estimated \$137 million multiple-stage project is expected to last approximately four years. The reconstruction of Route 18 will begin just north of Route 1 and extend north to the NJ TRANSIT/Amtrak Northeast Corridor rail bridge.

The purpose of this project is to enhance the safety and operations of this section of Route 18. The reconstruction will improve corridor traffic operations by eliminating substandard roadway geometric features, managing access to and from the New Brunswick and enhancing access and mobility for pedestrians, bicyclists and transit users. The project will include roadway rehabilitation, reconstruction, and operational improvements via collector-distributor design on the same alignment to relieve congestion and improve safety and the flow of traffic. Reconstruction improvements will include:

- New outer roadways will be built to separate local traffic from the expressway traffic. Both the northbound and southbound outer roadways will allow access to and from the city by meeting new bridges at George Street, Commercial Avenue, New Street and Albany Street. An express section for through-traffic and another section for local traffic will be provided along with acceleration/deceleration lanes and shoulders.
- The outer roadways will also have wide multi-use paths along their entire lengths and at each bridge crossing to connect the city, its institutions, residential and recreational areas. Multi-use paths, bicycle/pedestrian overpasses and bus stop pullouts will be provided and/or upgraded.
- Safer pedestrian crossings will be provided with traffic signals at Paulus Boulevard, George Street and Commercial Avenue, and pedestrian bridges at Carpender Road and Richmond Street. The connection to the pedestrian bridge at New Street will be improved.
- A ramped promenade from the new bridge at Commercial Avenue will provide a scenic vista of the Raritan River and a grand entranceway for pedestrians into Boyd Park. Improvements also include a new amphitheater adjacent to the park pavilion and take in the area closest to the outer roadway.

- Boyd Park will be extended into the former City Docks area and a new boat ramp and picnic pavilion, along with ample parking for the park will be provided. New sidewalks and lighting will be provided throughout areas that pedestrians and bicyclists use.
- Noise walls will be constructed to buffer several residential locations.
- Aesthetics in the Route 18 reconstruction area will be enhanced by burying utilities underground, extensive landscaping and through architectural and other urban design treatments. The Albany Street tunnel and the Richmond Street bridge will be constructed with a sensitivity to their neighborhoods.



Source: NJDOT

According to the NJDOT, final design of this project is underway, as is right-of-way acquisition. Awarding of the construction contract is

anticipated to take place in September 2004. Construction is anticipated to take a number of years – starting in late 2004 and expected to extend into 2008.

- o Route 18 Extension (River Road to Hoes Lane Extension) in Piscataway. This multi-year project is under construction and is slated for completion in 2005. The project consists of the construction of a new connector road on a new alignment from River Road to Hoes Lane Extension consisting of a 4-lane, limited-access roadway with grade-separated interchanges.
- o Route 18/ Hoes Lane Extension to I-287 in Piscataway. Existing Hoes Lane from the Hoes Lane Extension to I-287 will be rehabilitated and will consist of a four-lane roadway with ramp and signal modification. Preliminary design is slated to begin in 2004.
- o Route 27, Bennetts Lane to Somerset Street in New Brunswick. A Feasibility Assessment is being prepared that will recommend improvements that support the redevelopment of the Renaissance 2000 area while maintaining acceptable levels of service for Route 27. Recommendations will also be made for improvements for pedestrians, transit and bicycle facilities. Preliminary design is slated to begin in 2004.

- o Route 1 Improvements in North Brunswick (between Ryders Lane and Milltown Road). According to the NJDOT, this project includes the total replacement of a deficient bridge on the existing alignment, plus approach roadway profile and vertical sight distance improvements, improvement of ramp geometry and reducing the number of bridge spans from five to one. No additional through lanes are proposed. The typical section will be three 12-foot lanes, a 12-foot auxiliary lane, a 3-foot inside shoulder, and a 12-foot outside shoulder in each direction, separated by a concrete barrier curb. According to the NJDOT, elimination of the railroad line under the bridge is an important element of the preferred alternative. Also included are geometric improvements and four traffic signals along parallel service roads on both sides of Route 1 within the project limits. This project is being designed to be bicycle/pedestrian compatible. In addition, safety conditions will be improved for bicycle/pedestrians along College Farm Road and Access Road. According to the NJDOT, preliminary design is underway on this project.
- o New Jersey Turnpike between Interchange 8A and Interchange 9. The New Jersey Turnpike Authority is widening the outer roadways from two lanes to three lanes between Interchange 8A and Interchange 9. The project is scheduled for completion in 2005.
- o County Work on Traffic Signals in the City. Middlesex County's Engineering Office indicates that its Transportation Section is currently working on improvements to 19 traffic signals within the City.
- o Neilson Street - Neilson Street, between Commercial Avenue and Tabernacle Way, is planned to become a two-way street in mid-2004. This should significantly include traffic flow in that portion of the City.
- o French Street Commercial District - A proposal has been made to eliminate some on-street parking, add off-street parking and provide turn lanes in this area.
- o Georges Road/ Sanford Street/ Jones Avenue Intersection - The City Engineering Department has prepared a plan to reconfigure this intersection.
- o Improvements in and around College Avenue Campus - Rutgers University and the City have been discussing several major circulation changes in the College Avenue campus area.

Alternative Modes of Transportation

New Brunswick is served by frequent commuter rail service, bus service to New York City, NJ Transit and Suburban local and regional bus routes, as well as municipal and Rutgers University services. St. Peters Hospital, Robert Wood Johnson Hospital, and Johnson & Johnson (all major employers with 2000+ employees) are within ¼ mile of a local bus route and/or the New Brunswick train station. The Rutgers University campuses are well served by their own system, with connections to other services. Local bus access to New Brunswick employment is available from most communities in the northern and central part of the county, and some employees may be able to use commuter rail if they live close to a Northeast Corridor stations in Edison or Metuchen. That being said, frequency and span of service limits the ability of transit to provide employment trips. New Jersey Transit local bus routes into New Brunswick generally provide 60-minute headways, a level of service that makes it unattractive for users who have other options. Most routes operate from early morning (6 or 6:30 AM) to mid evening (9 or 10 PM), making it feasible for the standard workday but difficult for those who work non-traditional hours. Saturday and/or Sunday service is often provided on these local routes, albeit with a reduced span. Connections between New Brunswick and the southern part of the County do not exist.

Bus and Shuttle Transit

Bus transit is an important form of transportation within the City. Seven percent of the City's resident workers use the bus to get to work (a

percentage that is much higher than experienced throughout the country or even Middlesex County as a whole). In addition, a large number of the City's residents use bus transportation for other purposes as well including transportation to school, shopping and community facilities.

Local bus transportation is provided by N.J. Transit, Suburban Transit, Middlesex County, Rutgers University, and the City of New Brunswick. N.J. Transit provides bus service within Middlesex County and commuter service to New York City. Suburban Transit provides regional and inter-regional transit service. The City provides intra-municipal service. The Rutgers University bus system is one of the largest university bus systems in the nation.

The routes of these transit systems are summarized below:

Rutgers University Bus System

The Rutgers University Bus System is by far the most extensive and heavily utilized transit system in the City. The Rutgers University inter-campus bus system provides service on the five New Brunswick and Piscataway campuses. It is available to all members of the University community. Annual ridership was estimated at over 6,000,000 in 2002.

While the primary function of the bus system is to provide inter- and intra-campus transportation. However, several of the routes, such as the EE and F routes (which both run between the Cook/Douglass and College Avenue Campus, the G (which connects Cook/Douglass to the Busch Campus, the GG (which runs between the Cook/Douglass and Livingston Campus) and the L (connect the College Avenue and Livingston Campuses) contain several off-campus stops in the City's downtown area including stops near the following intersections Richmond/Nielson Streets, New/ Neilson Streets, Neilson/ Liberty Streets, George/ Carmen Streets, and the New Brunswick train station. These stops provide an important means of transportation, allowing students to access the train station and downtown for work and shopping and allowing University workers residing in the City to commute to work.

In addition to the Campus Bus System, Rutgers University offers a number of other shuttle services such as: the Knight Mover - late night/early morning on-demand response service; Paratransit Service - van transport to/from classes for students with disabilities; and the Library Shuttles - shuttle service for the Library of Science and Medicine (Busch) and the Mabel Smith Douglass Library (Douglass).

City Transportation Services

- o *HUB City Local* – The City of New Brunswick and Middlesex County fund a free, fixed-route neighborhood shuttle and social services bus that runs through residential areas of New Brunswick, Monday through Saturday, 7:30 am to 5:00 pm. This service carried over 82,000 riders in 2002. The objective of the service is to provide City residents access to social, retail and medical services.
- o *New BrunsQuick Shuttle* – The New BrunsQuick Shuttle is a City transportation service done in conjunction with Rutgers and the NBPA. It replaced the 5th & 6th Ward Shuttle. This service allows riders to travel to the College Avenue Campus and connect to the Campus Bus System to travel to all other New Brunswick/Piscataway campuses. The New BrunsQuick Shuttle utilizes 16-passenger mini-buses is in service weekdays from 6 am to 2am. It runs on a fixed loop route on approximately 10- minute intervals from 6 am to 10:00pm and approximately 20-minute intervals from 10 pm to 2 am. Its route runs between the New Brunswick Train Station (includes RU Bookstore), through the 5th and 6th wards of New Brunswick and the College Avenue Campus and has fixed stops at the train station, College Avenue Gym/Student Center, Scott Hall (College Avenue @ Hamilton Street) and during peak times it stops at Colony House. Riders may also embark/ disembark at other locations upon request.
- o *Dial-A-Ride* – The City provides para-transit services for disabled individuals who reside in New Brunswick. This service provides

transportation from and individual's home to medical and/or social service related destinations. The Dial-A-Ride program provides riders access to medical and social services in the greater New Brunswick area.

- o *Senior Citizen Van Service* – The City provides resident senior citizens transportation from their homes to the City's Senior Resource Center.

N.J. Transit

Regional Service

- o *810 (New Brunswick – Woodbridge Center)* – Originates in New Brunswick at Somerset and George Street and provides service to New Brunswick, Rutgers University, Highland Park, Metuchen, Edison, Menlo Park Mall, Roosevelt Hospital, Woodbridge and Woodbridge Center. This route carried over 300,000 riders in 2002.
- o *811 (New Brunswick – South River)* – Originates in New Brunswick at St. Peters Hospital and has stops at St. Peters Hospital and Somerset and George Street in New Brunswick, North Brunswick Shopping Center, Milltown, at the Civic Center and Brunswick Square Mall in East Brunswick, and South River. This route carried 77,000 riders in 2002.
- o *814 (North Brunswick – New Brunswick - Middlesex County College)* – Originates at Middlesex College in Edison and runs from

there through Highland Park, New Brunswick and North Brunswick terminating at Fashion Plaza in North Brunswick. Contains stops in New Brunswick at George and Albany Streets, Rutgers Student Center, and Somerset and George Streets. This route carried 278,000 riders in 2002.

- o *815 (New Brunswick - East Brunswick – Woodbridge Center)* - This route originates at Somerset and George Street and contains a stop at Burnet Street and Tunison Road in New Brunswick and stops in East Brunswick, South River, Sayreville, South Amboy, Perth Amboy and Woodbridge prior to its terminus at the Woodbridge Shopping Center. This route carried 361,500 riders in 2002.
- o *818 (New Brunswick – East Brunswick – Old Bridge)* - This route originates at Somerset and George Street and contains a stop at Burnet Street and Tunison Road in New Brunswick as well as stops in East Brunswick and Old Bridge prior to its terminus at the Old Bridge Civic Center. This route carried 125,000 riders in 2002.

Local Service

- o *980 - Wheels Program (New Brunswick- Piscataway)* – The Wheels program operates a shuttle bus from the New Brunswick train station to employment centers in Piscataway. This route carried 18,000 riders in 2002.

Suburban Transit*Local Service*

- *Dunellen to New Brunswick to Princeton* – Follows a route starting at the Dunellen train station and terminating at Princeton Palmer Square with stops in New Brunswick, Highland Park, Edison, Piscataway and Dunellen. Stops at the New Brunswick Park & Ride Lot and the New Brunswick train station.
- *Kendall Park to New Brunswick to Dunellen* – Reverse of “Dunellen to New Brunswick to Princeton” route. Starting at Princeton Palmer Square and ends at Dunellen train station with stops in New Brunswick, Highland Park, Edison, Piscataway and Dunellen. Stops at the New Brunswick Park & Ride Lot and the New Brunswick train station.
- *New Brunswick to JFK Boulevard* – This route connects the New Brunswick train station and New Brunswick Park & Ride Lot to JFK Boulevard in Franklin Township.

Service to Manhattan

Suburban Transit offers a number of routes to various stops in Manhattan. The following routes contain stops within New Brunswick, although a

number of other routes have stops near New Brunswick including within East Brunswick and North Brunswick:

- *New Brunswick to New York Crosstown* – This route provides bus access to several locations in midtown Manhattan (42nd & 8th Ave, Grand Central Station and United Nations) and has stops at the New Brunswick Park & Ride Lot and downtown New Brunswick as well as nearby stops in East Brunswick.
- *Princeton/East Brunswick/New Brunswick Wall Street* – This route provides bus access to lower Manhattan (Battery Park) and has stops at the New Brunswick Park & Ride Lot and downtown New Brunswick as well as nearby stops in East Brunswick.
- *Princeton & New Brunswick to New York* - This route provides bus access to the New York Port Authority Bus Terminal in midtown Manhattan and has stops at the New Brunswick Park & Ride Lot and downtown New Brunswick as well as nearby stops in East Brunswick.

Other Services

- *Davidson Avenue Shuttle (DASH)* – The Davidson Avenue Shuttle (DASH) is a two-route shuttle bus system that provides transportation

between major employment sites and train stations during peak hours. One of the two routes (DASH-SC2 – New Brunswick to Davidson Avenue) operates from the New Brunswick and Bound Brook train stations to worksites in the Davidson Avenue section of Franklin Township. The shuttles run between 6:30-8:30 a.m. and 3:00-5:30 p.m., Monday thru Friday for a \$1 fare and has stops at Livingston/Suydam Street and the New Brunswick Train Station. The service carried almost 29,000 passengers last year.

- o *Middlesex County Community Shuttle (AVTS 8A Shuttle)* – This shuttle provides transportation for senior citizens and those with disabilities. It operates between New Brunswick and destinations in South Brunswick and Cranbury. It has stops at the New Brunswick train Station, Livingston Avenue/ New Street, Livingston Avenue/ Howard Street, Livingston Avenue/ Nassau Street and Livingston Avenue/ 9th Street.

Passenger Rail Transportation

Existing Service

There are two passenger train stations located in the City. One is located on Albany Street at the intersection of Easton Avenue (the “New Brunswick” station). The other is located off Jersey Avenue between Van Dyke Avenue and Triangle Road (the “Jersey Avenue” station). Both

stations provide access to the Northeast Corridor Line (New York-Trenton) and are operated by N.J. Transit.

As shown in the table below the average daily ridership at both of the City’s two train stations has increased significantly over the years. While ridership remained relatively level through the 1980’s, average daily ridership at the City’s train stations increased significantly through the 1990’s and continues to increase. Commuter rail ridership increased 46% between 1990 and 2000. Ridership increased another 7% between 2000 and 2002, alone. The two stations experienced similar increases in ridership. Based upon a comparison to Table 2, below, it would appear that the majority of the ridership consists of commuters coming to the City (e.g., students, visitors, and employees of nearby businesses) since only 637 City residents indicated that they commuted to work by train in the 2000 Census).

TABLE 1: Commuter Rail Ridership – Average Daily “ONS” at New Brunswick’s Stations

Station	1980	1990	2000	2002
New Brunswick – Downtown	3,016	3,007	4,420	4,780
Jersey Avenue	844	897	1,281	1,323
Total	3,830	3,904	5,701	6,103

Source: Middlesex County Annual Report on Transportation, 2003

Proposed Projects

o *Monmouth-Ocean-Middlesex Commuter Rail Project.* New Jersey Transit is currently evaluating the feasibility and potential impacts of constructing a passenger rail line through portions of Monmouth, Ocean and Middlesex County that are not currently served by rail transit. All three alternative routes being evaluated cover the area located between the Northeast Corridor line (the line that serves New Brunswick and runs in a northeast direction from Trenton to New York and the North Jersey Coast line (which serves the shore communities). One of the proposed routes, the Monmouth Junction to Lakehurst Commuter Rail Alternative, would connect to the Northeast Corridor line and thus could potentially affect New Brunswick. This commuter rail alternative would use an existing 40.1-mile rail corridor that runs from Monmouth Junction, in South Brunswick Township to Lakehurst. This alternative would provide diesel commuter rail service to communities in Middlesex, Monmouth and Ocean counties. The line would begin at Monmouth Junction (South Brunswick), where the Jamesburg Branch partially joins the Northeast Corridor (NEC). From Monmouth Junction, the line would continue southeast from Monmouth Junction, Jamesburg, Monroe, Englishtown, Manalapan, Freehold Borough, Freehold Township, Howell and Farmingdale. It would proceed southward from Farmingdale to Lakehurst passing through Howell, Lakewood, Jackson, Dover, and Manchester. Trains on this line would also operate on the NEC between Monmouth Junction and Newark. The Lakehurst to Monmouth Junction alignment

would connect with the Northeast Corridor, allowing direct rail access to both northbound and southbound NJ Transit and Amtrak destinations, including New York City, Newark Airport, New Brunswick and Rutgers University as well as other local and regional destinations. Proponents of this alignment back it claiming that it would service the fastest growing sections of Ocean and Monmouth Counties; would reduce traffic congestion on Route 9; and would provide public transportation in the section of the tri-county region that has the least amount of public transportation.

The Monmouth Junction to Lakehurst Commuter Rail Alternative may make commuting to New Brunswick via train a viable alternative to the automobile for those living in the proposed service area (i.e., New Brunswick-bound workers and other visitors residing in Monmouth Junction, Jamesburg, Monroe, Englishtown, Manalapan, Freehold Borough, Freehold Township, Howell, Farmingdale, Lakewood, Jackson, Dover, Manchester and Lakehurst).

o *The Greater New Brunswick Area Corridor Study - Fixed Guideway Transit System.* The Greater New Brunswick Area Corridor Study (2001) prepared for Middlesex County and Rutgers University by Urbitran Associates, Inc. et. al. examined the need for and feasibility

of a fixed guideway transit system⁴ within the greater New Brunswick area. The purpose of the study was to assess the feasibility of establishing a fixed guideway transit system to supplement the already multi-modal greater New Brunswick area transportation system. According to the study, benefits of such a fixed guideway transit system include: (1) increased transportation choice in the corridor by providing an alternative to the automobile for accessing New Brunswick's Central Business District, Rutgers University, regional transit facilities, governmental offices, area employment centers and other activity centers in the greater New Brunswick area; (2) expanded capacity of the greater New Brunswick area transportation system to meet the needs of existing development and accommodate additional growth and economic development while lessening projected impact on regional and local roadways and demand for additional parking; and (3) more efficient travel within and between Rutgers University's five New Brunswick area campuses, while reducing demand for intercampus automobile usage and parking.

⁴ A "fixed guideway transit system" was defined in the study as a high-capacity transit system – either light rail or bus rapid transit – that operates on a fixed route, primarily on an exclusive right-of-way, serving a limited number of stations/stops.

The 10-mile planning corridor roughly parallels the proposed Route 18 extension from I-287 in Piscataway Township, continues through downtown New Brunswick, and ends in East Brunswick Township. The northwest segment of the system would be anchored by the Centennial Avenue employment corridor and a park & ride/shared parking facility in the vicinity of Hoes Lane and Centennial Avenue or Knightsbridge Road in Piscataway and would service the Piscataway campuses of Rutgers. After crossing the Raritan River in the vicinity of the existing John Lynch Bridge, the conceptual route would connect with the College Avenue Campus at the College Avenue intersection with Huntington Street. The conceptual alignment would utilize a portion of the existing College Avenue cartway for two-way exclusive right-of-way operation to Somerset Street where it turns east. The concept alignment would then turn east onto Somerset Street and south again onto George Street toward the downtown central business district and proximate to the New Brunswick train station on the elevated NEC rail line. The concept alignment would cross under the NEC rail line utilizing the existing George Street underpass. Three options for locating the concept alignment in the downtown segment were investigated, including: Alternative #1 (George Street, closed to vehicular traffic with two-way transit); Alternative #2: (Neilson Street, one-way vehicular traffic with two-way transit); Alternative #3 (George Street and Neilson Street, One-Way Pair). While the study made no selection between the alternatives,

Alternative #3, which was suggested by officials from the City of New Brunswick, emerged as very promising, according to the study. This alternative involves splitting the transit right-of-way between George Street and Neilson Street with north-bound transit service in the middle of Neilson Street and south-bound transit service on the west side of George Street. This alternative would maintain one-way traffic traveling south on George Street and potentially permit parking on one side of the street in the lower George Street area between New Street and Commercial Avenue. On Neilson Street, two-way vehicular traffic could be maintained sandwiched around the exclusive guideway in the middle. The transition from downtown New Brunswick onto the Douglass campus depends, in large part, on which alternative through the downtown area is selected. Once again, Alternative #3, which derives from the one-way split option described above, emerged as very promising according to the study. Under this alternative, the southbound lane of the concept alignment crosses Commercial Avenue at George Street and would enter the Douglass Campus at Bishop Street (the northbound lane of the Concept Alignment would utilize the Bishop Street right-of-way as it exits Douglass Campus from George Street.). After entering the Douglass campus, from a point in the vicinity of Hickman Hall, the concept alignment turns to the south on University property and connects with Clifton Avenue/Ryders Lane in the vicinity of Neilson Dining Hall. From this location the alignment continues south

alongside Ryders Lane to Route 1 and would continue on covering portions of North Brunswick Township, Milltown Borough, and East Brunswick Township. It would terminate at a proposed multi-modal transit center.

Walking & Bicycling

Existing Conditions

In general, New Brunswick is very pedestrian friendly, with sidewalks in existence along most of the local, county and state routes traversing the City. Due to its relatively compact building form and the density of development in the City walking is an important means of transportation in the City. Table 2, *Commute to Work*, illustrates the importance of walking as a means of transportation in the City. The percentage of City residents who walked to work is indicated as 13% (i.e., 3,281 of the City's workers), a percentage that is 4 times higher than Middlesex County and the State as a whole. The percentage of residents who commuted by bicycle was similarly much higher than County average. In addition, however, it is important to note that a relatively significant proportion of City residents not only walk and bike to work but also to get to school, to access nearby shopping areas and to access the City's recreational, civic and cultural facilities.

Bicycling/Pedestrians Issues and Proposed and Planned Projects

A number of studies have been conducted evaluating pedestrian and bicycling circulation within the City and recommending improvements to improve pedestrian and bicycling circulation. Two of the most recent such studies include the Middlesex County Bicycle Pedestrian Plan prepared by the Middlesex County Planning Department and the New Brunswick Bikeway Study prepared for the NJDOT.

The Middlesex County Bicycle Pedestrian Plan summarized bicycle circulation issues in the City as follows:

“Bicycling activity within and coming into New Brunswick is high. The 1990 Census showed 131 people commuting to work by bicycle, the highest number in the County. Significant number so bicyclists travel between the two Rutgers University Campuses (College Avenue Campus and Cook/ Douglas Campus) along routes that pass through or near the downtown. The central business district along the George Street corridor features dozen of major destinations and trip generators including retail shops, restaurants, banks, government and corporate offices and entertainment venues. The New Brunswick Train Station is a major destination, which is apparent from the large number of bicycles stored in its bike racks. New facilities are needed to enhance access to the critical Raritan River

crossings at the Albany Street Bridge (Route 27), John Lynch Bridge (Route 18), and Landings Lane Bridge in order to establish a countywide bicycle and pedestrian network. The proposed widening of NJ 18 (between US1 and NJ 27) will include extensive bicycle/pedestrian facilities, particularly Boyd Park, but maintenance and upgrading of the existing section of the Route 18 bikeway, referred to as “The Trench,” is critically needed. Thoroughfares in the City that should be reviewed for bicycle compatibility include NJ 27, College Avenue, George Street, Nielson Street, Easton Avenue, Suydam Street, Louis Street, Courtland Street, Livingston Avenue, Ryders Lane and Commercial Avenue.”

The Middlesex County Bicycle Pedestrian Plan recommends the following pedestrian and bicycle circulation-related improvements:

- o The Plan recommends a bike route along George Street from NJ Route 27 (Albany Street) to US Route 1. The Plan, however, notes that due to heavy traffic, George Street should be circumvented between NJ Route 27 (Albany Street) and the John Lynch Bridge with the route following the NJ Bikeway (“The Trench”) route.
- o The Plan endorses the inclusion of bicycle/pedestrian facilities in the proposed Route 18 project.

- o The Plan recommends improvement of the NJ 18 Bikeway ("The Trench") from John Lynch Bridge to NJ 27 including a connection between the Route 27 southbound walkway to the Trench.
- o Pedestrian time light displays at various locations including George Street and NJ 27 and Easton Avenue and NJ 27.
- o Sidewalks on Van Dyke Avenue from NJ 27 to Jersey Avenue Station.
- o Sidewalks on Landing Lane from Landing Lane Bridge to Franklin Boulevard.
- o Pedestrian bridge or ramp that would access Boyd Park from Richmond Street
- o Rutgers Campus bike racks.
- o Sidewalks and bicycle routes in the Renaissance 2000 area on Route 27 from French Street to How Lane are proposed to be upgraded.
- o A potential bicycle route on How Lane between Route 27 and Livingston Avenue that ties into a route in Somerset.

The New Brunswick Bikeway Study was more targeted. It assessed bicycle travel only within and through the downtown area of the City of New Brunswick. The study assessed the constraints of bicycle circulation through nine potential corridors through the City's downtown area, including George Street, Suydam Street, Livingston Avenue, Route 27/Albany Street, Easton Avenue, College Avenue, Nielson Street, and a "riverside route" that would run parallel with the Raritan River. The

recommended bicycle circulation route through the downtown area (i.e., the corridor or combination of corridors recommended to be improved to provide a bicycle route) is still under evaluation.

The following bicycle/pedestrian improvements are currently being planned:

- o Route 18 Trench Bikepath. Concept development is slated to begin in 2004 for improvements to the Route 18 Trench Bikepath extending from Route 27 to Route 18, John Lynch Bridge over the Raritan River. It is noted that the existing trench has numerous safety and security problems that deter bicyclists from using this facility. A study will be conducted to recommend improvements aimed at providing better visibility from outside "The Trench," additional points of ingress and egress, better lighting especially at the Route 27 underpass, a wider path with overlooks or rest areas, state-of-the-art protective barrier, improved bicycle crossings at the intersection with George Street and a better connection with the John Lynch Bridge. The project is sponsored by NJDOT.
- o Route 18 Improvements (between Route 1 and the Northeast Corridor Amtrak Line north of Route 27) in New Brunswick. As indicated above, Route 18 in New Brunswick will undergo long-awaited major reconstruction and related improvements to motorist, pedestrian and bicyclist safety. The project will involve a number of pedestrian and

bicycle-related improvements consisting of: inclusion of: wide multi-use paths along the entire lengths of the planned outer roadways and at each bridge crossing; safer pedestrian crossings provided with traffic signals at Paulus Boulevard, George Street and Commercial Avenue; pedestrian bridges at Carpender Road and Richmond Street; improved connection to the pedestrian bridge at New Street; and, a ramped promenade from the new bridge at Commercial Avenue providing a grand entranceway for pedestrians into Boyd Park.

Commute to Work

The commuting characteristics for City residents, according to the 2000 Census, are indicated in the table below. As shown, almost half (48%) of the New Brunswick’s residents drove alone to their places of employment (compared to 56% in 1990) while almost one fourth (24%) carpooled (compared to 14% in 1990). Approximately 11% used public transportation (with the majority of those residents using the bus and a lower percentage commuting by train). This represents only a slight gain over 1990 at which time 12% of City workers commuted by public transportation (9% by bus; 3% by train). The percentage of City residents who walked to work (13%) was significantly higher than the national average (approximately 3%) and remained even with 1990 levels. The table shows that the commuting characteristics of City residents differ substantially from that of the County as a whole. The County’s

commuting characteristics are more reflective of national averages where the percentage of workers driving to work alone is 76%, the percentage that carpool is 12%, and the percentage using public transportation is less than 5%.

The median travel time to work for City residents was 23.4 minutes and 31.5 minutes for the County as a whole. Both City and County residents experience a longer commute than the 25.5- minute national average. The statewide mean travel time of 30.0 minutes was noted by the Census as being amongst the highest in the nation.

Table 2: Resident’s Commute to Work – New Brunswick and Middlesex County (2000)

Mode of Transportation	City		County	
	Number	Percent	Number	Percent
Drove Alone	11,028	48%	270,256	74%
Carpool	5,619	24%	40,402	11%
Public Transportation	2,605	11%	31,419	9%
Bus or trolley	1,598	7%	13,152	4%
Railroad	637	3%	16,078	4%
Taxicab	276	1%	1,004	0.3%
Walked	3,281	13%	10,115	3%
Other Means	591	3%	3,294	1%
Worked at home	300	1%	7,690	2%
Mean travel time to work (minutes)	23.4		31.5	

Source: U.S. Bureau of the Census

The fact that, on average, City residents have a shorter commute, time-wise, than residents of the County as a whole can be explained at least partially by the fact that City residents would appear to live closer to their places of work. As shown in the table below, 72% of City residents work within Middlesex County. In contrast, only 56% of workers in Middlesex County as a whole worked within the County and a higher percentage work outside of the State.

Table 3: Resident Place of Work – New Brunswick and Middlesex County (2000)

Place of Work	New Brunswick		Middlesex County
	Number	Percent	Percent
In New Jersey	22,126	96%	90%
In Middlesex County	16,705	72%	56%
In Other County in New Jersey	5,421	23%	34%
Outside of New Jersey	998	4%	10%

Source: U.S. Bureau of the Census

Freight and Goods Movement

New Brunswick takes advantage of its highway network to provide for freight and goods movement in and out of the City. The City’s advantage for freight and goods movement arises from its location and access to the major highway network that provides service to the larger metropolitan area and the country. This makes it an attractive location for commercial, warehouse, distribution, and light industrial uses.

The major issue as it relates to development of these uses is the protection of residential neighborhoods from the impact of trucks. In this light, it is to the advantage of the City to separate these uses and provide streamlined access to major roadways while avoiding residential communities. Restricting truck traffic to designated routes and providing efficient access to major roadways while avoiding residential communities is an important planning objective. Development of trucking-dependant uses should be limited to areas with direct access to designated truck routes, without requiring bypass through residential areas.

Parking

Existing Conditions

On-Street Parking and Meters

On-street parking is an important component of the City’s parking supply. In many areas of the City, on-street parking represents a significant proportion of the parking supply. On-street parking, for example, is a key component of the parking supply in most of the City’s neighborhood and community commercial areas including the Easton Avenue, French Street and lower George Street corridor as well as a number of the City’s smaller commercial zones. On-street parking at meters and time-limit areas are designed and regulated to promote turnover for commercial and retail use.

Off-Street Parking Facilities

Off-street parking is the predominant form of parking in the City's other commercial and other non-residential zones. In many districts, such as the Highway Commercial, General Office, and the industrial zones, parking is provided in the form of surface parking lots for the use on site. In other areas, such as the City's hospital zones parking is provided mostly via on-site parking structures. In the downtown area, however, most of the parking is provided via public parking facilities (mostly in the form of parking garages).

The New Brunswick Parking Authority (NBPA) owns and manages several parking facilities, mostly in the downtown area that provide hourly, daily, and monthly parking for the City's destinations and businesses. Off-street parking facilities fall into one of the following three categories:

- o Metered Parking Lots - Off-street metered parking lots are located throughout the city of New Brunswick. The table below identifies the location of such facilities in the downtown area.
- o Cashiered Parking Lots - Throughout the City you will also find several cashiered parking lots. The use of a cashiered lot is encouraged when you will be parked for an unknown amount of time or if you wish to use a parking validation. Parking validations are accepted at

- o most cashiered facilities, except the Cultural Center Lot. The table below identifies the location of one such facility in the downtown area.
- o Municipal Parking Decks - Listed in the table below are the numerous parking decks located in downtown New Brunswick. Some decks are strictly for monthly parking.

Table 4: New Brunswick Parking Authority (NBPA) Facilities – Downtown New Brunswick

Site #	Name of Lot or Deck	Capacity	Hours of Operation
<u>Metered Parking Lots</u>			
7	Paterson Street Lot	47 spaces	8:00 am - 9:00pm M-F
6	Upper Church Street Lot	42 spaces	8:00am to 9:00pm M-F
-	Ferren Metered Lot	18 spaces	8:00am to 9:00pm
1	Easton Avenue Lot	18 spaces	8:00am to 9:00pm
11	Liberty Plaza Lot	18 spaces	8:00am to 9:00pm
-	Library Lot	24 spaces	8:00am to 4:00pm
<i>Total</i>		<i>167 spaces in metered parking lots</i>	
<u>Cashiered Parking Lots</u>			
12	Cultural Center Lot	70 spaces	8:00am to 6:00pm M-F, plus evenings and weekends for Theatre Events
<i>Total</i>		<i>70 spaces in cashiered parking lots</i>	

Site #	Name of Lot or Deck	Capacity	Hours of Operation
<i>Municipal Parking Lots</i>			
8	Lower Church Street Deck	429 spaces	24 hrs
4	Ferren Daily Deck	643 spaces	24 hrs
5	Ferren Monthly Deck	585 monthly spaces	24 hrs
14	New Street Deck	430 spaces	7:30am-12 midnight M-F Non-Event Days 7:30am-2:00pm Saturday Non-Event Days 7:30am-Cashier Closing on Event Days
10	Wolfson Deck	525 monthly spaces	Monthly Parking only - weekdays Open for Event Parking evenings and weekends
15	Paterson Street Deck	280 daily spaces 1,200 monthly spaces	7:30am - 9:00pm weekdays Daily Parkers 7:30am - 2:00pm Saturday Daily Parkers 6:00am - 12 midnight Monthly Parkers
13	Civic Square Deck	486 spaces	Not open to the public weekdays
<i>Total</i>		<i>2,268 daily spaces in municipal parking decks</i> <i>2,310 monthly spaces in municipal parking deck</i> <i>4,578 total spaces in municipal parking decks</i>	
Total		4,815 NBPA spaces in downtown New Brunswick	

Source: New Brunswick Parking Authority

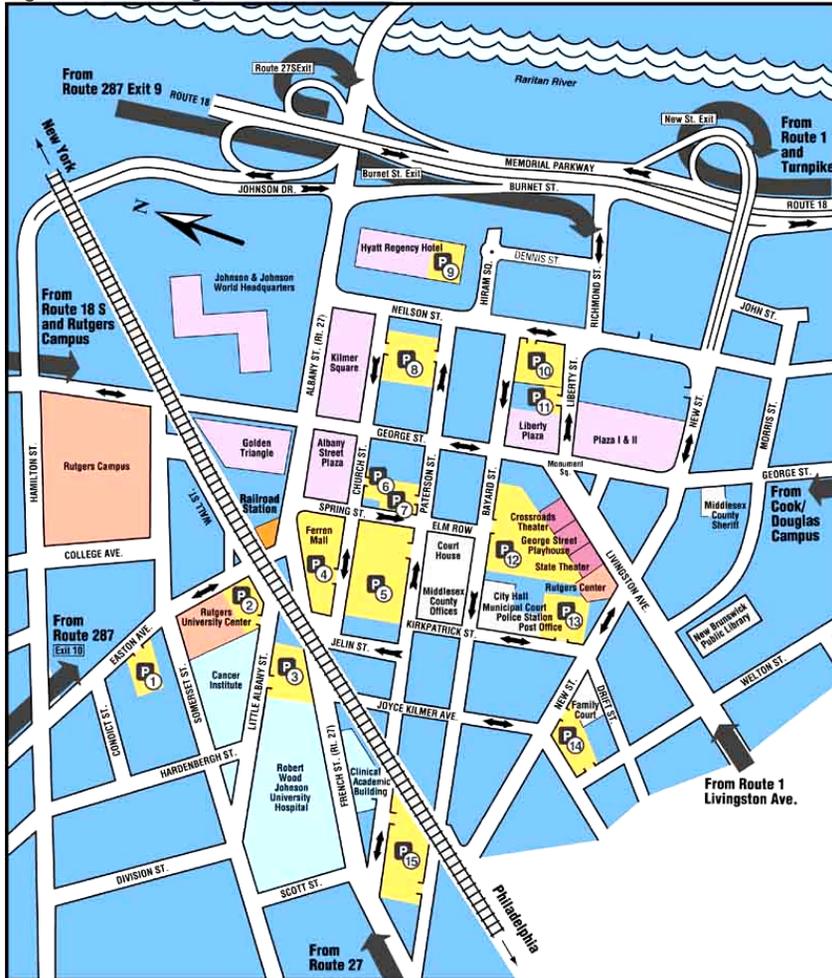
As shown in the table above, NBPA’s inventory of parking spaces in the downtown area totals over 4,800 spaces, of which almost 4,600 spaces are located in NBPA’s 7 parking decks.

Significant additional facilities that are shown on the map below (but not in the table above since they are not part of NBPA’s downtown inventory) include the:

- o Parking facility at the “Rutgers University Center” (site #2 on the map below) which contains 600 spaces;
- o Parking facility at the Robert Wood Johnson University Hospital (site #3 on the map below) which provides approximately 600 spaces; and
- o Parking garage at the Hyatt Regency Hotel (site #9 on the map below).

These facilities are also an important part of the parking inventory in downtown New Brunswick. For example, in addition to serving the hotel, the parking garage at the Hyatt Regency provides monthly and daily parking for non-guests of the hotel.

Figure 1: Parking Facilities – Downtown New Brunswick



Source: New Brunswick Parking Authority

Other Public Parking Facilities

The NBPA manages the NJ Transit Commuter Park & Ride located on Jersey Avenue. There is quarterly permit parking as well as daily parking located at this facility. The quarterly permit lot contains 830 spaces (an additional 379 quarterly permit spaces are located in the alternate lot adjacent to the daily parking). The daily lot contains 206 spaces.

Event Parking

Parking for theater events at the City's three outstanding performing arts venues (the State Theatre, George Street Playhouse, and Crossroads Theater) is located at several locations within a short walk to the theaters – the Cultural Center Lot, Wolfson Deck, Civic Square Deck, and New Street Deck.

Special Parking Programs

Visitors to downtown New Brunswick can receive up to two hours of free parking when their ticket is validated by participating merchants, restaurants and businesses. The NBPA and New Brunswick City Market sponsor the program.

Residential Permit Parking Program

In many residential areas of New Brunswick, residential permit parking exists to help ensure on-street parking is not monopolized by adjacent commercial or institutional activities and is available to local residents. The City Council initiated the Residential Permit Parking Program, which designated certain areas of New Brunswick as Residential Permit Parking Districts called wards, in 1986. The City Council established these parking districts because of increased demand for parking, particularly in the areas adjacent to Rutgers University, the hospitals, and the commercial areas, which compete for on street parking with residents. The New Brunswick Parking Authority (NBPA) administers the Residential Permit Parking Program and is responsible for the issuance of permits and enforcement as stipulated by City Ordinance which prohibits on-street parking in designated areas for vehicles without a residential parking permit. Several different types of permits as included in the program:

- o *Homeowner Permit* – Homeowners living in a home within a residential permit parking district are entitled to a Homeowner Permit, which is valid for up to 3 years, as well as two Homeowner Visitor Passes for your property.
- o *Landlord Permit* – Those who own a home within a residential permit-parking district but rent it to others and who live outside the ward where the rental property is located are entitled to a Landlord Permit.

The Landlord Permit is for use only when visiting the property and is assigned to a specific license plate number.

- o *Tenant Permit* – Those renting property within a Residential Permit Parking District in New Brunswick may be eligible for a Tenant Permit, which is valid for up to one year depending of the proof of residence submitted and the date the permit is obtained. A maximum of two Tenant Permits per dwelling unit will be issued on a first come, first served basis. One additional Tenant permit can be issued if all three tenants have their driver's license and vehicles registered to the New Brunswick address.
- o *Visitor Permits* - Visitor Permits can be obtained by the property owner at the NBPA Office. A one family structure is entitled to only one visitor permit. All other structures are entitled to a maximum of two visitor permits. A visitor permit may be used and reused by visitors as long as the permit has not expired. Visitor Permits are issued annually and last from June 1st to June 1st. Vehicles using visitor permits must park within a 2-block radius of the address on the permit.
- o *Sublet Permit* – Sublessors may receive a Sublet Permit valid for the term of the sublease.
- o *Temporary Permit* – Temporary permits are available for one 1 week period in order to give those moving to the area and unfamiliar with

the residential permit parking program time to gather the proper documentation necessary to obtain the appropriate parking permit.

Parking Issues

- o *On-going need for more parking in and around the central business district in order to serve the needs of businesses and residences as well as to serve the City's educational, healthcare and cultural resources.* The desire to have an adequate supply and distribution of parking spaces in and around the central business district was an issue commonly raised by stakeholders. As the central business district continues to be reinvented, careful attention will have to be paid towards the supply, design, location and accessibility of parking.

Specific parking issues related to the central business district include the following: peaks during holiday periods, lunch hour, and during major events; parking needs to be in a convenient location and perceived as safe; potential users of the parking need to know where the parking is (i.e., need for "way finding"); need to balance employee and merchant parking; and the need to coordinate parking between different developments (e.g., opportunities for shared parking).

- o *Parking issues in other businesses areas of the City, outside of the central business district.* Stakeholders identified parking issues in other commercial areas of the City as well. Parking issues along Easton Avenue and French Street, in particular, were identified by stakeholders.
- o *Parking problems in certain neighborhoods due to a prevalence of student-occupied housing especially where single- or two-family homes have been converted for occupation by multiple students, many of whom have cars.* Most of the neighborhoods that contain a prevalence of student housing (e.g., the 5th and 6th Wards and parts of the 1st and 2nd Wards) consist of housing constructed in the earlier part of the last century. Most of these homes were constructed for occupancy by families and at a time when cars were not nearly as prevalent in our society as they are today. As a result, many of the parcels in these areas of the City were not designed to accommodate off-street parking for multiple cars. While this may have eventually resulted in parking issues if these neighborhoods were occupied by typical families (i.e., simply as a result of the significant increase in car ownership since these neighborhoods were developed), the issue is greatly exacerbated by the fact that many of the homes are now occupied by multiple student-residents with cars. In many cases, where lots cannot accommodate parking in the

driveway, parking of cars has spilled out into the front yard and/or into City streets. The root issue is the number of cars brought to the City by student-residents. Since these student-residents typically commute to class on foot or bicycle or via the University bus system, their cars typically remain parked in the same location for days at a time thereby limiting the opportunity for others to use that space. Certainly, encouraging student-residents to drive to class would not be a reasonable solution since student commuting via foot, bicycle or bus serves to reduce traffic congestion within the City and University-related parking problems. This issue illustrates how the parking and traffic issues within the City are quite complex and interrelated.

- o *Need for coordinated effort on the part of the University and the City to address parking needs.* Parking issues associated with the parks needs/ desires of students, as well other University-related parking issues, point to the need for better coordination between the University and the City. These issues include the potential for sharing of parking resources.

RECOMMENDATIONS

New Brunswick's circulation system is a significant asset that gives the City a competitive advantage in its effort to attract employment, investment and economic development. There is a need for

improvements, however, to better integrate the various modes of transportation, preserve and upgrade existing infrastructure and increase the speed, efficiency, and safety of the system. The recommendations fall under the following general categories: traffic circulation; public transportation; parking and pedestrian/ bicycling.

Traffic Circulation Recommendations

The traffic circulation recommendations are as follows:

- o Continue to make selected improvements to the local roadway network that address points of particular congestion and that otherwise improve traffic circulation within the City. New Brunswick's road and highway network is aging and its function is constrained by the high volume of local and regional traffic, functionally obsolete infrastructure with limited capacity and dense pattern of development that generates and attracts numerous trips. Although the City cannot build its way out of congestion, there are improvements that have the potential to improve traffic conditions and increase the efficiency of the road network. These include the preservation of existing infrastructure, selected capacity expansion and the elimination of bottlenecks. The City should pursue the expansion of routine maintenance such as resurfacing, operational improvements such as exclusive turn lanes where appropriate, system management

upgrades such as elimination of on-street parking where necessary and appropriate, and safety initiatives such as traffic calming.

- Improve the function of signalized intersections - A number of signalized intersections have substandard designs, layouts or controls and are not able to accommodate current (and predicted future) levels of peak hour traffic, causing significant queuing and delays that affect both the mainline and cross streets. The City should seek physical and operational improvements to a number of signalized intersections, including the following: Route 27 and Easton Avenue; New Street and Nielson Street; New Street and George Street; New Street and Livingston Avenue; New Street and Kirkpatrick Street; and New Street and Joyce Kilmer Avenue.
- Improve roadway function - There are a few roadways within the City that, because of “constriction points” (narrow underpasses) do not provide for continuity of traffic flow, thereby contributing to congestion, queuing, delays and possibly accidents. Others do not have sufficient carrying capacity to effectively accommodate current and predicted future travel demand. One such location is the George Street rail underpass.
- Establish computer-controlled signal systems - Many traffic signal systems have fixed or preset timing and cannot dynamically respond to changes in traffic flow movements or conditions,

leading to excessive delays and/or queuing at signalized intersections. The City should seek to establish computer-controlled signal systems that can continually monitor traffic volumes and adjust signal timings and phases accordingly. The following roadways within the City as worthy of evaluation of such a system: Easton Avenue and George Street between New Street and Nichol Street.

- Continue to pursue the improvement of other City roadways and intersections. The City should continue to pursue other improvements to the City’s roadway network (i.e., in addition to those mentioned in the paragraphs above) that address localized traffic problems (e.g., insufficient intersections, roadways in need of particular improvement) and that will otherwise improve traffic circulation within the City. The *Roadway Conditions/ Traffic Issues* section, above, a number of studies (e.g., the Middlesex County Transportation Plan, “New Brunswick Traffic and Parking Improvement Study,” “Route 27/ Renaissance 2000 Corridor Study” and the “Route 1 Corridor Collaborative Study”) have identified a number of recommended improvements to City roadways and intersections that the City should continue to evaluate and implement.

- o Lobby for, and participate in the planning of, improvements to the regional roadway network that would improve traffic circulation into and within the City. As discussed above, most of the roadways that provide regional roadway access to and from the City suffer from varying degrees of congestion, including: NJ Route 18, US 1, NJ Route 27, County Route 527 (Easton Avenue), County Route 609 (Landing Lane), County Route 672 (George Street), and County Route 680 (How Lane). The Turnpike, as well, suffers occasional congestion particularly around its interchange with Route 1. Since the City does not control these roadways it cannot directly effectuate changes to these roadways. The City, therefore, should actively lobby for improvements to these and other State or County roadways that would improve traffic circulation into and within the City. The City should actively participate in the planning and design of improvements to these and other State or County roadways in order to make sure that the City's interests are taken into account.

- o The Master Plan endorses the improvements planned by the State and County that would improve traffic circulation into and within the City. Such projects include the Route 18 Improvements project in New Brunswick; the Route 18 Extension (River Road to Hoes Lane Extension) in Piscataway; the Route 18/ Hoes Lane Extension to I-287 in Piscataway; improvements to Route 27 between Bennetts

Lane to Somerset Street in New Brunswick; Route 1 improvements in North Brunswick (between Ryders Lane and Milltown Road); improvements to the New Jersey Turnpike between Interchange 8A and Interchange 9; and the County work on traffic signals in the City.

While some of these projects will be constructed with relatively minimal impact to the City, the Route 18 project will likely significantly affect traffic circulation into and out of the City for a number of years. It is quite likely that the City will experience increased traffic problems during the construction of this project. Although the traffic problems will be temporary in nature (i.e., they will be presumably relieved after the project is completed), the City should consider ways to address the temporary traffic congestion caused by the project. Rutgers University has established a Route 18 Widening Committee to including modified class schedules and modification of campus bus routes. In addition to encouraging the use of public transportation, the City should work cooperatively with Rutgers, as well as its major employers and other public and private partners to address other potential means of addressing the potential traffic delays, including encouraging alternative work schedule, ridesharing and telecommuting.

- o Channel through traffic passing through New Brunswick away from local streets. Some traffic congestion within the City is undoubtedly caused by motorists cutting through the City to reach destinations outside of New Brunswick. While many of the roadways that traverse the City are intended to convey regional traffic, other roadways within the City that are not so designed are used as cut-through routes. Reducing this cut-through traffic on local roads could improve traffic conditions within the City and help City residents and workers trying to get in, out and around the City. This objective would most likely be accomplished through cooperative effort with adjacent municipalities, Middlesex County and the NJDOT.
- o The Master Plan endorses the improvements recommended in the Route 27 Corridor study prepared by Orth-Rodgers. The report calls for the widening of Route 27 from St. Peters Cemetery to How Lane. Improvements include: lane configuration to accommodate a center turn lane; pavement markings and other measures to encourage pedestrian traffic and improve pedestrian safety; installation of bus shelters along Route 27; widening of shoulders to accommodate shared bicycle lanes; and, street tree planting and other aesthetic improvements along the Route 27 corridor.
- o Keep non-local trucks off local roads. Signage can be used to direct non-local truck traffic, particularly tractor-trailers, around local roads.
- o Re-examine Neilson Street circulation – The circulation of Neilson Street should be reviewed to determine if two-way circulation is practical for its entire length or whether a portion of Neilson Street may better function as part of a one-way system with George Street.
- o Improve traffic circulation in the French Street commercial area - A proposal has been made to eliminate some on-street parking, add off-street parking and provide turn lanes in this area. Although the proposal is still in a rather conceptual stage, it appears to have merit and should continue to be evaluated.
- o Balance traffic and pedestrian circulation needs in the College Avenue Campus area. The City and Rutgers should work together to balance the traffic and pedestrian circulation needs in and around the College Avenue campus, particularly along College Avenue. This would involve working cooperatively with one another as well as with other agencies to study how vehicular circulation, mass transit and pedestrian circulation can be improved.

The recommendations above involve the implementation of capital improvements intended to ease traffic congestion and improve traffic circulation. While together these improvements will significantly improve traffic circulation into, from and within the City, they will not solve all of the City's transportation needs. Thus, in addition to solving the result of increased traffic generation (i.e., traffic congestion) through capital improvements to roadways, the City should also pursue measures intended to reduce the potential generation of traffic in the first place, including:

- o Making land use decisions that encourage non-auto modes of transportation. The City should continue to make land use decisions that encourage non-auto modes of transportation, including locating residential and employment-generating development in locations convenient to mass transit and locating residential developments in close proximity to downtown employment centers.
- o Building on New Brunswick's status as a multi-modal center of transportation. As an urban center, emphasis should be placed on encouraging multiple modes of transportation. In order for the City to continue to improve, it should continue to improve upon its status as a multi-modal center of transportation that provides a variety of transportation options into, from and within the City. Emphasis should be placed on seeking opportunities to encourage non-

automobile means of transportation including public transportation (bus and rail) as well as walking and bicycling. Recommendations below address non-automotive means of transportation.

- o Encouraging transportation management options that help reduce traffic congestion. In addition to the providing non-auto modes of transportation (discussed below), there are a number of other ways in which traffic generation can be reduced. The City should encourage the following:
 - *Alternative work schedule*: The City should encourage employers to institute flex-time and off-peak work arrival and departure times. Options include, but are not limited to:
 - o Staggered work hours: Workers and/or management choose arrival and departure times, but must report at the same time each day and hours must include a core period to allow some daily interaction with co-workers.
 - o Flexible hours: Each day, workers vary their start and ending times and the length of the lunch break, within management guidelines.
 - o Compressed work week including: 4/10 or 4/40 schedule (employees work four 10-hour days instead of five 8-hour days); 9/80 schedule (a two-week period in which employees work 80 hours in nine days with one day off,

generally Friday or Monday; and, 4.5-day week (employees work four nine-hour days and one four-hour day).

- *Ridesharing*: The City should encourage the use of carpools and vanpools.
 - o *Carpooling*: In a carpool, a driver picks up other interested commuters at their home, at a park “n” ride lot or at another mutually agreed-upon location. It only takes two people to form a carpool, although increasing the number of passengers will reduce overall commuting costs.
 - o *Vanpools*: Vanpools are usually a more formal arrangement among a larger number of interested people than are carpools. Vanpools usually are created for up to 15 people, each of whom have a guaranteed seat and share costs. The vanpool driver, frequently a co-worker, usually rides for free since it is his or her responsibility to ensure the smooth functioning of the vanpool. The three most common categories of vanpools are: third party, employer-sponsored and owner-operated. In third party vanpools, vehicles are owned and operated by a for-profit vendor. The vendor covers maintenance, insurance and administration of the vanpool. The vanpool members pay for the service. The least expensive vanpooling option is the employer-sponsored vanpool. Employers purchase or lease the vans and arrange

for maintenance, insurance and administration. Fares may also promote the program and help organize the groups. An owner-operated vanpool is owned by one or more of the group’s members – sometimes through a corporation in order to protect the owner from personal liability. The owner(s) arrange for maintenance, insurance and billing. NJ TRANSIT offers a statewide vanpool sponsorship program, which provides a financial incentive for vanpooling in areas where public transportation is neither available nor feasible. Each vanpool group may be eligible for \$150 per month of sponsorship support.

- *Employer-Operated Shuttle Vans*: There are a number of large employers in the City of New Brunswick. These employers should be encouraged to provide shuttle vans that provide transportation between the employment site and bus transfer points, rail stations and other transportation hubs.
- *Telecommuting*: Telecommuting allows selected employees to work from home or from a work location very close to home. This arrangement may be established for one or more workdays. In some cases, it may be established for most of the entire workweek. Most telecommuters work from home one or two days a week, and they report to their office the rest of the time. Telecommuting eliminates an entire commuter vehicle for one or

more days. Contrary to popular thinking, telecommuting doesn't demand a big investment in high-tech equipment and it offers many advantages to the employee, the employer and the community.

These initiatives could be coordinated through Keep Middlesex Moving (KMM), Middlesex County's transportation management association. KMM has programs to assist companies in planning for: carpooling; vanpooling; telecommuting; expanded mass transit opportunities; and flexible work week scheduling.

Public Transportation Recommendations

- o Encourage and/or implement improvements to public transportation in order that public transportation will more effectively meet the transportation needs of City residents, workers, students or visitors who currently rely on it and in order to make public transportation a more attractive and feasible alternative to those who currently drive.

The City should continue in its efforts to make public transportation as available and attractive an option for as many of its City residents, workers, students or visitors as is feasible. Efforts the City should pursue in this regard include:

- *Improve linkages between modes of transportation in order to make non-automobile modes of transportation more attractive and convenient to City residents, workers, students and visitors.* In this regard, the City should continue to pursue improved pedestrian and bicycle connections to public transportation facilities such as the New Brunswick and Jersey Avenue Train Stations and the Suburban Transit facility on Route 27. The provision of additional bike storage at public transportation facilities may also help make this a more attractive commuting option. In addition, the City should pursue enhancements to local shuttle systems (The Wheels and the Hub City Local programs) intended to increase use of these services and to provide improved accessibility to other modes of public transportation such as commuter bus routes and rail. The City should consider improvements that would extend shuttle bus service to areas of the City not currently served and/or improve service to areas already served.
- *Push for the provision of better transit service.* New Brunswick has excellent transit service to Manhattan and along certain fixed route transit services. It is less well connected to other areas elsewhere in Middlesex County and other locations in the region. The City should encourage the provision of bus transportation and other transit services to the City from areas of the County and region not currently served.

- o Follow the progress of, and participate in, the planning of improvements to the regional mass transit network that have potential to affect regional accessibility to the City. As described above, there are a number of proposals being considered that may affect regional accessibility to the City, including the Monmouth-Ocean-Middlesex Commuter Rail Project (which involves the evaluation of constructing a passenger rail line through portions of Monmouth, Ocean and Middlesex County that are not currently served by rail transit and potentially providing rail connection from these areas to the City) and the Greater New Brunswick Area Corridor Study - Fixed Guideway Transit System (which examined the need for, and feasibility of, a fixed guideway transit system within the greater New Brunswick area).

One of the proposed routes being evaluated in the Monmouth-Ocean-Middlesex Commuter Rail Project, the Monmouth Junction to Lakehurst Commuter Rail Alternative, has the potential to significantly improve regional non-automobile access to the City of New Brunswick from the areas involved. Using an existing 40.1-mile rail corridor that runs from Monmouth Junction, in South Brunswick Township to Lakehurst, this alternative would connect to line Northeast Corridor (which serves the Jersey Avenue and New Brunswick train stations) and provide diesel commuter rail service to communities in Middlesex, Monmouth and Ocean counties including

Monmouth Junction (South Brunswick), Jamesburg, Monroe, Englishtown, Manalapan, Freehold Borough, Freehold Township, Howell and Farmingdale, Howell, Lakewood, Jackson, Dover, Manchester and Lakehurst. The Monmouth Junction to Lakehurst Commuter Rail Alternative may make commuting to New Brunswick via train a viable alternative to the automobile for those living in the proposed service area (i.e., New Brunswick-bound workers and other visitors residing in Monmouth Junction, Jamesburg, Monroe, Englishtown, Manalapan, Freehold Borough, Freehold Township, Howell, Farmingdale, Lakewood, Jackson, Dover, Manchester and Lakehurst). For this reason, the City should follow the progress of this planning effort, and if deemed appropriate should lobby for the Monmouth Junction to Lakehurst Commuter Rail Alternative.

Any transportation option serving the greater New Brunswick area that does not depend solely on the roadway system certainly deserves to be studied. For this reason the City should continue to participate in the study of the proposed fixed guideway transit system evaluated in the Greater New Brunswick Area Corridor Study. However, since implementation of this proposal could have significant impacts on traffic, pedestrian and bicycle circulation within the downtown and other areas of the City and could impact other planning objectives (e.g., streetscape improvements), the City should closely monitor this proposal.

- o Promote the use of public transportation. The City should promote the use of public transportation, including reaching out to major employers to encourage their employees to use mass transportation.

Pedestrian and Bicycle Circulation Recommendations

- o The Master Plan endorses the planned pedestrian/ bicycle improvements to the Route 18 Trench Bikepath. Concept development is slated to begin in 2004 for improvements to the Route 18 Trench Bikepath extending from Route 27 to Route 18, John Lynch Bridge over the Raritan River. It is noted that the existing trench has numerous safety and security problems that deter bicyclists from using this facility. A study will be conducted to recommend improvements aimed at providing better visibility from outside "The Trench," additional points of ingress and egress, better lighting especially at the Route 27 underpass, a wider path with overlooks or rest areas, state-of-the-art protective barrier, improved bicycle crossings at the intersection with George Street and a better connection with the John Lynch Bridge.
- o The Master Plan endorses the planned pedestrian/ bicycle improvements proposed in association with the Route 18 improvement project (between Route 1 and the Northeast Corridor Amtrak Line north of Route 27). As indicated above, Route 18 in New Brunswick will undergo long-awaited major reconstruction and related improvements to motorist, pedestrian and bicyclist safety. The project will involve a number of pedestrian and bicycle-related improvements consisting of: inclusion of: wide multi-use paths along the entire lengths of the planned outer roadways and at each bridge crossing; safer pedestrian crossings provided with traffic signals at Paulus Boulevard, George Street and Commercial Avenue; pedestrian bridges at Carpender Road and Richmond Street; improved connection to the pedestrian bridge at New Street; and, a ramped promenade from the new bridge at Commercial Avenue providing a grand entranceway for pedestrians into Boyd Park.
- o The Master Plan supports the creation of improved bicycle circulation between the College Avenue and Cook/ Douglas Campuses. The provision of improved bicycle circulation in a corridor linking the New Brunswick campuses of Rutgers University should be pursued. The second phase of the New Brunswick Bikeway Study is currently being prepared. The City, of course, will participate in the project and will help ensure that a solution is reached that is practical, effective and conducive to bicycle travel between the two campuses.
- o Better protect pedestrians and cyclists in the crosswalk. The City should pursue a number of approaches to facilitate pedestrian and cycling safety, including:

- *Ensure that all crosswalks are adequately painted.* There exist a number of intersections in the City where pedestrian crosswalks are either not painted onto the pavement or where the paint has been worn. This should ensure that all crosswalks are adequately painted, particularly those in areas of the City characterized by high pedestrian and bicycle activity.
- *Improve pedestrian signage throughout the City.* While certain areas of the City, such as the Cook/ Douglas Campus have well placed and clearly visible signage alerting motorists to the presence of pedestrian crosswalks, some other areas of the City characterized by high pedestrian activity do not. The City should add well-placed and clearly visible pedestrian signage in such areas of the City. In addition, the City should consider the placement of “Yield to Pedestrian” signage in the centerline of streets. Such signage may be particularly appropriate and effective in the City’s most active pedestrian areas.
- *Consider more creative approaches to facilitate pedestrian crossings.* More creative approaches to facilitate pedestrian crossings and to alert motorists to the presence of pedestrians, such as raised pedestrian crosswalks, changes in pavement (e.g., use of pavers) and bump-outs, should be considered in areas characterized by high pedestrian activity.
- *Prohibit right turn on red in areas of the City with high pedestrian and bicycle activity.* The City should consider prohibiting right turns of red at signalized intersections in areas of the City characterized by high levels of pedestrian and bicycle activity.
- *Provide adequate lighting of sidewalks and other bicycle and pedestrian routes.* Bicycle and pedestrian safety is important at all hours, including when it is dark outside. Where street lights do not cast sufficient light on sidewalks and other bicycle and pedestrian routes, the City should ensure that additional pedestrian-scale lighting is provided.
- *Consider a dedicated pedestrian phase at the City’s busiest pedestrian intersections.* Certain intersections experience high levels of pedestrian activity particularly during certain peak times of the day. Consideration should be given to providing dedicated pedestrian phases at such signalized intersections.
- o Ensure that all transportation improvements and development projects improve the pedestrian and bicycle experience. All future roadway improvements projects in the City should be designed in a manner that improves pedestrian and bicycle circulation in addition to accomplishing its intended traffic improvement purpose. Improvements to intersections and roadways should incorporate pedestrian and bicycle circulation (e.g., pedestrian visibility and sight distance, drop ramp placement and design, crosswalk placement and design, pedestrian signage and/or signalization, consideration of bump outs, etc.) as key design considerations. Public and private

development projects within the City should also maximize the pedestrian and bicycle experience through design that maximizes connectivity to existing bicycle and pedestrian routes, provides well lit and attractive pedestrian and bicycle facilities, and that otherwise encourages the walking and biking within the City.

- o Seek other opportunities that encourage the use of the bicycle as means of transportation within the City including:
 - Encouraging the installation of secure bicycle storage facilities at employment centers, shopping centers, train stations, park-and-ride lots and other potential destinations.
 - Eliminating roadway hazards such the replacement of sewer grates that are not bicycle friendly.
- o Address discontinuity and absence of sidewalks and shoulders where they exist. The discontinuity and absence of sidewalks and shoulders exacerbates auto dependence (even for very short trips) and hinders the development of a viable bicycle and pedestrian facility network. Where they exist, the City should seek to extend or fill in gaps in the existing sidewalk system within the City, with a focus on connecting residential areas with schools, recreation areas, train stations, shopping and other activity centers and employment and shopping sites with train stations and bus stops.

Parking Recommendations

- o Evaluate existing City property, vacant land, or underutilized land for the construction of additional public parking facilities in areas in need of additional parking. The City should seek opportunities to add public parking in the City's commercial areas including the central business district and areas outside of the downtown area such as the Easton Avenue and French Street commercial areas. Evaluation of the feasibility of converting, where appropriate, municipal surface parking lots in the central business district to multi-level structured parking decks as a means of increasing the CBD's ability to accommodate shoppers, workers, visitors and anticipated redevelopment should be considered. The feasibility of constructed public parking (surface or structured parking) on existing City property, vacant land or underutilized land in the City's other commercial areas should be considered as well.
- o Continue to encourage the provision of public parking in the City's downtown redevelopment projects. Where appropriate, the City has sought to encourage the provision of public parking in the redevelopment activities occurring in and around the downtown area. The University Center project (which includes parking for the adjacent hospital-related uses) and the planned College Hall development (which is planned to include a 815-car parking garage catering to the city's growing parking demand) are two such projects.

The City should continue to pursue the provision of public parking in the City's downtown redevelopment projects, particularly when such projects would be located in retail and theater areas or when the provision of such parking could address particular parking needs, such as near hospital uses.

- o Ensure that short-term parking is used for its intended purpose. The majority of meter parking in the City's downtown area is short-term parking (e.g., restricted to a two-hour time limit). Limiting the time that a vehicle may be parked at a space is intended to control who uses the space and to ensure that it is turned over on a regular basis so that it can be utilized by several visitors during the course of the day. Short-term metered parking is intended to reduce or preclude its use by commuters or employees – leaving the spaces available for consumers or other short-term visitors to a commercial area. Unfortunately “meter-feeding” is a prevalent practice in most community's commercial areas and New Brunswick is not immune. Meter feeding occurs when individuals insert additional coins into the meter at regular intervals prior to the expiration of the meter in order to leave the vehicle in the same space for an extended period of time. Meter feeding can severely limit the turn over of metered parking. While enforcement of parking meter time limits is in place, enforcement of the meter feeding practice is difficult. Chalk marks placed on tires by enforcement officials are easily moved and moving

the vehicle a short distance forward or backward can also be employed to beat the system. Nevertheless, stepped up enforcement efforts should be considered to assist in reducing this practice.

- o The City should continue to seek improved resolution of the parking problems in the 5th and 6th Wards caused by the prevalence of student-occupied housing. As discussed above, most of the neighborhoods that contain a prevalence of student housing consist of housing constructed for occupancy by families and at a time when cars were not nearly as prevalent in our society as they are today. As a result, many of the parcels in these areas of the City were not designed to accommodate off-street parking for multiple cars. While this may have eventually resulted in parking issues if these neighborhoods were occupied by typical families (i.e., simply as a result of the significant increase in car ownership since these neighborhoods were developed), the issue is greatly exacerbated by the fact that many of the homes are now occupied by multiple student-residents with cars. Since these student-residents typically commute to class on foot or bicycle or via the University bus system, their cars typically remain parked in the same location for days at a time thereby limiting the opportunity for others to use that space. This issue is quite complex and interrelated with other planning issues and will not be easily solved. In fact, the City has been diligently working on this issue for some time now. Potential measures that

have been raised in the past generally fall within the following categories:

- Increased parking capacity in the neighborhood including: adding additional on-street parking spaces where possible and appropriate; painting of parking space striping to eliminate potentially wasted space; and the construction of small “pocket” parking lots in order to relieve some off of the on-street parking congestion;
- Modifications to the permitting program;
- Coordination with Rutgers University to address University related parking problems;
- Improved public transportation within the 5th and 6th wards.

The City should continue to consider appropriate changes and seek new solutions to the parking issues in the 5th and 6th Wards.

- o Improved signage to direct visitors to parking facilities. While employees working in the City are aware of parking facilities available to them, visitors to the City may not be. The City should consider seek to improve signage intended to direct visitors to the City’s parking facilities. While the City already has a way-finding program, a more unified system of well placed, easily identifiable and color coordinated “trailblazing” signage directing visitors to available “theater parking,” “hourly parking,” “daily parking,” “commuter parking,” “hospital parking,” etc. should be implemented.
- o Encourage off-hour use of private lots for public parking. Private lots that serve uses that do not have a need for such parking themselves during the evening such as banks and offices located in areas that experience a large demand for parking in the evening hours could be encouraged for use as private pay parking lots during the evening.