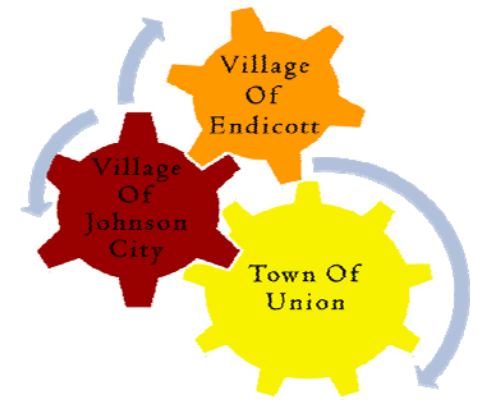


Technical Background Report



Transportation

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TRANSPORTATION STUDY

Introduction

Virtually all movement is channeled along specific routes that are themselves organized into networks of varying complexity. Changes in land have an impact upon the use of transportation routes. There has been great change in the land use patterns over time as the Town of Union developed through the process of suburbanization. Therefore, the purpose of the Transportation Technical Background Report is to provide an analysis from which a sound land use and can be developed. To determine how effectively a transportation network functions requires a thorough inventory of all components such as road conditions and characteristics, traffic counts, accident locations, bus routes, and airline service. The main sources of information for this study were acquired from field surveys, Broome County Department of Public Works, Binghamton Metropolitan Transportation Study, and the New York State Department of Transportation.

Roads, Conditions, And Characteristics

Approximately 71% of the streets within the Part-Town had a least partial or fully constructed curb and gutter, while only 37% had at least partial or fully constructed sidewalks. The percentage of streets with curb and gutter will increase due to capital improvements and the inclusion of curbs and gutters on all new streets. It appears that the percentage of streets with sidewalks will decline because they are not required for new subdivisions. With the exception of several roads in the northern part of the Part-Town virtually every street has lighting. Approximately half the roads within the Part-Town are in good to excellent condition, meaning that they are not in need of any major maintenance. The remainder of the roads are in either fair or poor condition. One of the major reasons why roads within the region deteriorate is due to the severity of winters.

The majority of the roads within the Part-Town have rights-of-way of either 40 or 50 feet. In most cases paving widths excluding curb and gutter are either 24 or 27 feet. New subdivision roads are required to have a 50 foot right-of-way and a 30 foot paved width.

All the roads within the Part-Town should have a sufficient right-of-way in case a road needs to be widened. That is why right-of-way and paving width information should be periodically updated. Without adequate rights-of-way, it is impossible for the



governmental agency responsible for a road to prevent development from encroaching upon land which will be needed for future expansion to meet projected traffic needs. The setback requirements of a zoning ordinance are insufficient for this reservation of land, as they are measured from the existing right-of-way and in terms only of the existing use of the road. Establishment of ultimate right-of-way widths would serve not only to reduce the expense of future road widening, but also to protect future development from the adverse effects of inadequate buffering from a major artery.

Jurisdiction

The majority of the road mileage within the Part-Town is under Part-Town jurisdiction. The remaining roads are either the responsibility of Broome County or New York State.

State Roads

- Route 17 (Southern Tier Expressway)
- Route 17C (Main Street, East Main Street, and George F. Highway)
- Route 26 (Union Center-Maine Highway)

County Roads

- Carl Street (Route 26-Glendale Drive)
- Country Club Road (East of Robinson Hill Road)
- Day Hollow Road East Maine Road Farm-to-Market Road
- Glendale Drive
- Harry L. Drive
- Hayes Avenue (Jenkins - Pine)
- Hooper Road
- Nanticoke Drive (Except for first 900' feet proceeding north from Route 26)
- Newell Road
- North Street
- Oakdale Road
- Pine Street (Hayes - Taft)
- Robinson Hill Road (to .06 miles north of Country Club)
- Stella Ireland Road



- Taft Avenue (Hooper - Country Club)
- Watson Boulevard
- Maple Drive

Functional Classification

Functional classification is the process by which streets and highways are grouped into classes or systems, according to the level and type of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary then to determine how this travel can be distributed within the network in a logical and efficient manner. Functional classification defines the nature of this distribution process by defining the part that any particular road or street should play in serving the flow of trips through the highway network. The road network within the Part-Town has been divided into the following classifications: Principal Arterial, Minor Arterial, Arterial Connection, Collection Street, and Local Street.

Principal Arterial Roads

In every urban environment there exists a system of streets and highways which can be identified as unusually significant to the area in which it lies in terms of the nature and composition of travel it serves. This system of streets and highways, called the principal arterial roads, typically serve the major centers of activity of the area, the longest trip desires, the highest traffic corridors and inter-city traffic. This system should carry the major proportion of trips entering and leaving an urban area, as well as, the majority of through movements desiring to bypass the urban area.

Minor Arterial Roads

Roads which provide access to identifiable neighborhoods, but usually do not penetrate the neighborhood are called the minor arterial roads. Minor arterial roads carry less traffic volume and offer a lower level of mobility than principal arterial roads. The system should also provide service to corridors with time lengths and travel densities greater than those predominantly served by arterial connectors and collector streets.



Arterial Connectors

The arterial connector system interconnects with and augments the minor arterial system and provides service for trips of moderate length at a somewhat lower level of travel mobility than arterial roads. Compared to the minor arterial system, arterial connectors carry a lower volume of traffic and do not provide access through identifiable neighborhoods.

Collector Streets

The collector street system differs from the arterial system in that facilities on the collector system may penetrate neighborhoods, distributing trips from arterials through the area to the ultimate destination, which may be on a local, or collector street. Conversely, the collector street system also collects traffic from local streets and channels it into the arterial system. In some cases due to the design of the overall street system, a minor amount of through traffic may be carried on some collector streets. The collector system provides both land access service and carries local traffic movements within residential neighborhoods.

Local Street System

The local street system consists of all streets not included in one of the higher systems. It serves primarily to provide direct access to abutting land and access to the higher order systems. It offers the lowest level of mobility and service to through traffic is usually discouraged.

Town of Union Functional Classification Of Roads

Village of Endicott

Principal Arterial Roads

- Main Street (NYS Route 17c)
- Union Center – Maine Highway (NYS Route 26)

Minor Arterial Roads

- Pine Street



- McKinley Avenue
- North Street
- Franklin Street
- Watson Boulevard

Arterial Connector Roads

- Hayes Avenue

Collector Streets

- North Page Avenue
- Oak Hill Avenue
- Prescott Avenue

Village of Johnson City

Principal Arterial Roads

- Main Street

Minor Arterial Roads

- New York State Route 201
- Reynolds Road
- Harry L Drive
- Oakdale Road

Arterial Connector Roads

- Robinson Hill Road



Collector Streets

- Camden Street

Part-Town Area

Principal Arterial Roads

- New York State Route 26
- New York State Route 17c

Minor Arterial Roads

- Day Hollow Road
- Country Club Road
- Watson Boulevard
- Hooper Road
- North Street
- Taft Avenue
- Glendale Drive
- East Maine Road
- Airport Road
- Oakdale Road
- Farm to Market Road

Arterial Connector Roads

- Bornt Hill Road
- Boswell Hill Road
- Nanticoke Drive
- Twist Run Road



- Case Road
- Hillside Terrace
- Robinson Hill Road
- Lewis Road
- Stella Ireland Road
- Struble Road

Collector Streets

- Smith Drive
- Pheasant Lane
- Grippen Avenue
- Chrysler Road
- Buffalo Street
- Poplar Street
- Pruyne Street

Principal Arterial Roads

- Route 17C - (Main Street, E. Main Street, George F. Highway)
- Route 17 - (Southern Tier Expressway) Route 26 - Union Center- Maine Highway

Minor Arterial Roads

- Country Club Road
- Nanticoke Drive (from Route 26 moving south) southeast to Twist Run Road
- County Airport Road
- North Street
- Day Hollow Road
- Oakdale Road



- East Maine Road
- Pine Street
- Farm-to-Market Road
- Taft Avenue (Twist Run Road-Country Club Rd)
- Twist Run Road (Nanticoke Drive - Taft)
- Glendale Drive
- Harry L. Drive
- Hayes Avenue (Watson - North)
- Hooper Road
- Watson Boulevard

Arterial Connector Roads

- Bean Hill Road
- Maple Drive
- Bornt Hill Road
- Nanticoke Drive (from Twist Run moving south to 26)
- Boswell Hill Road Case Road (south of Sally Piper Road)
- Hayes Avenue (Pine - Watson)
- Newell Road
- Sally Piper Road
- Hillside Terrace
- Robinson Hill Road
- Lewis Road
- Stella Ireland Road
- Struble Road
- Twist Run Road (Taft Avenue – Farm To Market Road)



- Farm-to-Market Road

Collector Streets

- Buffalo Street
- Page Avenue N.
- Camden Street
- Pheasant Lane
- Chrysler Road
- Pleasant Drive
- Davis Avenue
- Prescott Avenue
- Grippen Avenue N (south of 17C)
- Pruyne Street
- Oak Hill Avenue
- Smith Drive

BIKEWAY SYSTEM

A 1977 BMTS study prepared by Konski Engineers, and revised by BMTS, proposed a bikeway system for the entire Triple Cities Area. The Town of Union component of the Bikeway proposal consisted of building two bike paths and placing 116 signs on streets. The first independent path was along the riverbank between Louisiana Avenue and Scarborough Drive. The second ran from Riverside Drive and Corliss Avenue through Goudy Station and General Electric to Main Street. Binghamton Metropolitan Transportation Study (BMTS) also created an updated Pedestrian and Bicycle Plan that was adopted by the BMTS Policy Committee in June of 1996. The plan included a recommended core system of bicycle routes including sections in the Town of Union and Villages of Endicott and Johnson City.



Public Transportation – Bus Lines (Short Distance)

B.C Transit (Information as listed the B.C. Transit Web Page)

Broome County Transit provides the only fixed route public transportation within the Town of Union. Broome County Transit provides the Triple Cities Area with daily bus service, between 6 am and 6pm, except Sundays and holidays. Nightly and special service is provided, but on a limited basis. A majority of transit users are members of low-income families and many of the users travel by bus because they do not have access to an automobile. During the midday hours many elderly use the system due to a fare reduction. The Town of Union is served by four daily routes, along with two shuttles that run between downtown Endwell and West Corners.



Figure - 1 – B.C. Transit's Logo designed by Johnny Hart, a Broome County native and creator of the Wizard of Id comic strip.

B.C. Lift

B.C. Lift specifically serves the needs of people with disabilities throughout Broome County. B.C. Lift offers rides Monday through Friday from 5:30 a.m. until 12:30 a.m., Saturday from 5:30 a.m. until 11:00 p.m. and Sunday from 11:00 a.m. until 6:30 p.m. to people with disabilities in Broome County's urban core within the triple cities area. Rides must be scheduled at least a day ahead of time and can be made up to two weeks in advance.

B.C. Country

B.C. Country is available for riders who live outside of the Triple Cities. These buses travel to different rural areas of Broome County on scheduled days of the week. According to the BC Transit web site, these areas include Whitney Point, Lisle, Port Crane, Harpursville, Kirkwood, Deposit, Windsor, Maine, Glen Aubrey, Chenango Forks, Chenango Bridge and certain locations in Vestal. The only limitation for people using the B.C. Country is that they must live in the rural areas of Broome County and need to travel to the urban core of the triple cities. Like B.C. Lift, this service must be scheduled, at least a day in advance, or up to two weeks before needed.



Interstate Transportation – Bus Lines (Long Distance)

The residents of the Triple Cities area are served by two long distance bus carriers; Short Line, and Trailways which provide daily service to New York City, Buffalo, Syracuse, Washington, Boston, and other major cities. Short Line also provides direct service to Kennedy and La Guardia Airports in New York City.

Railway Service

There are no Amtrak or other passenger rail services serving the Triple Cities area. Syracuse and Harrisburg, Pa. are the only nearby cities which have passenger service. Conrail rights-of-way are still used in the Town of Union but only as freight corridors. The last passenger route was discontinued in December of 1970.

Air Transportation

The Greater Binghamton Airport, located in the Town of Maine, serves the Triple Cities area with passenger service provided by Northwest, United Express, and US Airways. These airlines connect Broome County with one of three major hubs located in Detroit, Philadelphia, or Washington DC.

Since its opening, the airport has undergone several expansion projects including a runway expansion (the North-South runway is currently 7,500' long) completed in 1988, an apron expansion to accommodate more corporate aircraft, and most recently a major upgrade to the passenger terminal building.

The Village of Endicott owns and operates the Triple Cities Airport, which is located in the southwest section of the Town of Union. Opened during 1936, the airport presently has two runways and houses 75 aircraft including 66 single engine airplanes, 5 multi engine airplanes, and 4 gliders. The airport supports an average of 132 aircraft operations a day, 48% of which are transient, 41% are local, 10% are air taxi and <1% are military.



Bridges

A bridge is defined as a structure, including supports, erected over a depression or an obstruction such as water, highway, or railway and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between under copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes. Multiple pipe configurations will qualify as bridges where the clean distance between openings is less than half of the smaller adjacent opening, and the total length along the center of the roadway is greater than 20 feet.

The National Bridge Inventory identifies sixteen structures that the Town of Union is responsible for. These structures are listed in Table 1.

Table 1 ~ Bridges in the Town of Union Under Town Jurisdiction

BIN	Road Carried	Crossed	General Recommend	Condition Rating	Sufficiency Rating	Year Built
2225690	County Road 72	Little Choconut Creek	5	5.333	96.4	1974
2225700	Harry L Drive	Little Choconut Creek	5	5	94.0	1957
2225710	Harry L Drive	Finch Hollow Creek	6	6.133	97.5	1941
2225720	Burns Street	Drainage Ditch	4	3.85	71.0	1938
2225740	Argonne Avenue	Patterson Creek	6	6.462	93.0	1988
2225760	Sally Piper Road	Patterson Creek	6	5.935	96.5	1987
2225780	Smith Drive	Patterson Creek	6	5.469	92.2	1970
2225790	Country Club Road	Patterson Creek	6	5.75	94.5	1949
2225810	Lester Avenue	Norfolk Southern	7	5.966	95.7	1987
2225830	Arch Street	Olive Street	6	4.722	66.5	1983
2225840	McKinley Avenue	Norfolk Southern	6	5.889	34.2	1930
2257650	Harry L Drive	Little Choconut Creek	7	5.922	99.9	1972
2267230	Industrial Park Road	Nanticoke Creek	6	5.367	85.5	1966
2268210	Wegmans Entrance	Finch Hollow Creek	7	6.6	97.4	1990
3349790	Watson Boulevard	Patterson Creek	5	5.417	93.5	1960
3367100	Newell Road	Brixus Creek	6	5.471	95.7	1966

The BIN is the Bridge Inventory Number as designated by the US Department of Transportation Federal Highway Administration.



Table 2 ~ Bridges in the Town of Union Under State or County Jurisdiction

BIN	Carried	Crossed	Sufficiency Rating	Year Built	Responsibility
1014260	Route 17C	Nanticoke Creek	97.5	1999	State
1014270	Route 17C	Norfolk Southern RR	97.5	1999	State
1014289	Route 17C	Route 26	95.1	2001	State
1014300	Route 17C	Patterson Creek	38.0	1932	State
1014320	Route 17C	Norfolk Southern	77.2	1980	State
1018460	Route 26	West Brook Creek	64.0	1969	State
1054831	Route 17	Susquehanna River	75.3	1969	State
1054832	Route 17	Susquehanna River	77.1	1969	State
1054841	Route 17	Patterson Creek	98.2	1969	State
1054842	Route 17	Patterson Creek	88.1	1969	State
1054851	Route 17	River Road	77.5	1969	State
1054852	Route 17	River Road	74.1	1969	State
1054860	Route 17C	Route 17	61.8	1968	State
1063161	Route 17	Route 17C & Norfolk Southern RR	78.1	1971	State
1063162	Route 17	Route 17C & Norfolk Southern RR	80.0	1971	State
1063179	Route 17	Oakdale Road	88.0	2003	State
1063189	Route 201	Rte 17	77.2	1987	State
1063190	Route 17	Finch Hollow Creek	72.6	1971	State
1063209	Route 17	North Broad Street	88.9	2003	State
1063219	Route 17	Lester Avenue & Little Choconut Creek	84.6	2003	State
1063229	Route 17	Stella Ireland Road	82.5	1971	State
1063269	Ramp JK	Little Choconut Creek	77.3	1971	State
1063270	Route 17C	Little Choconut Creek	81.0	1970	State
1063289	Rte 201	Rte 17C & Little Choconut Creek	82.6	1971	State
1063309	Route 201	Finch Hollow Creek	78.6	1971	State
1063430	Route 26	Nanticoke Creek	64.0	1969	State
1072970	Route 201	Grand Avenue	81.5	1986	State
1072980	Ramp Rte 17C to 201	Riverside Drive	99.8	1986	State
1072990	Ramp Rte 201 to 17C	Riverside Drive	99.8	1986	State
1078480	Rte 201	Ramp A	37.0	2005	State
1078490	Rte 201	Ramp B	95.0	2005	State
3349740	CR 33	Norfolk Southern RR	60.7	1964	County
3349750	CR33 Hooper Road	Patterson Creek	91.3	1944	County
3349760	Day Hollow Road	West Creek	94.9	1953	County
3349770	Nanticoke Drive	Bradley Creek	77.7	1957	County
3349780	CR13 Nanticoke Drive	Nanticoke Creek	47.7	1957	County
3349810	CR69 Airport Drive	Little Choconut Creek	98.8	1987	County
3349820	Stella Ireland Road	Little Choconut Creek	77.5	1942	County
3349840	Lester Avenue	Little Choconut Creek	78.3	1956	County
3358710	CR 33	Route 17C	68.7	1964	County
106328A	Rte 201	Norfolk Southern RR	81.9	1971	State

The Condition Rating is the average of scores for the physical condition of all the bridge components of a particular bridge, which range from 0 (closed) to 9 (superior condition). The number is calculated and assigned by state-certified bridge inspectors during each inspection of the bridge, which occur at least every two years.

The general condition rating is an overall assessment of the physical condition of the deck (riding surface), the superstructure (load carrying members such as beams or trusses that support the driving surface), substructures (abutments and piers) or culvert. General condition ratings range from 0 (closed) to 9 (superior condition).

Bridge sufficiency is a method of evaluating highway bridge data by calculating four separate factors to obtain a numeric value, which is indicative of the capability of the bridge to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge.



A number of other structures, Table 2, exist within the limits of the Town of the Union that are the responsibility of either County or State agencies. The general condition and condition rating numbers were unavailable for the structures that fell under the responsibility of either the County or State.