



City of Saint John

Draft Report

City of Saint John Transportation Strategic Plan Phase 2 – Goods Movement Strategy

Draft

Movesj



Prepared for City of Saint John
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1 Recommendations

1.1 Short Term (2018-2020)

1. Consult with goods movement stakeholders on the impacts of a Complete Streets policy on goods movement in the Central Business District (South Central Peninsula (report Section 3.2), recommended changes to truck routes (report Section 5.1)
2. Manage large truck deliveries in South Central Peninsula (report Section 5.4):
 - a. Prohibit 53 foot or larger trucks from South Central Peninsula streets except on the designated truck route to the Port of Saint John;
 - b. Alternatively, adopt a policy that significantly reduces the number of loading zones that are long enough for a truck with 53 foot trailer to discourage use of these trucks; and / or
 - c. Alternatively, limit truck access by trucks with 53 foot trailers to time-of-day or day-of-week restrictions:
3. Enact amendments to the City's Traffic By-law, Schedule K, to remove recommended truck routes (report Section 5.1) on sections of Churchill Blvd and Foster Thurston Drive;
4. Remove all 24 unregulated Truck Restriction signs (report Section 5.3);
5. Adequately sign designated truck routes based on signage warrants (report Section 5.3);
6. Enact and enforce an oversized load permitting process that includes a cost recovery model including stakeholder consultation (report Section 5.4), and an overweight permitting process (report Section 3.1) including during spring weight restrictions to replace the need for case-by-case by-law amendments;
7. Explore policy that would mandate that trucks use highways more for intra-city trips, including:
 - a. Considering an amendment to the Traffic by-law that would require trucks to use modern Provincial highways such as Highway 1 and excluding Provincial Designated (Route 100) or three Regional Highways via their interchanges if less travel on City streets between the origin and destination would be required compared to use of designated City truck route. An example of this would have trucks required to use Route 111 rather than bypass on Golden Grove Road; and,
 - b. Given that intra-city Provincial and Regional Highway (PDH and RDH) systems parallel Highway 1, advocate for the Provincial DTI's support of Recommendation 6.a relating to regulating trucks on these PDH's and RDH's.
8. Improve management of noise from trucks including:
 - a. Review authority and enforceability of enacting a City by-law that prohibits use of Engine Retarders (Jacob Brakes) except in emergency situations within the City implement such a by-law contingent on this review (report Section 5.5);
 - b. Shorten the current engine retarder curtesy signs to **"Please No Engine Retarders"** to improve driver readability;
 - c. Create a policy on the use of these signs with focus on residential areas, on truck routes, downhill and rapid deceleration areas; and

- d. Use more often the City's noise by-law that prohibits excessive idling and exhaust system modifications on trucks.

1.2 Medium Term (2020-2023)

1. Pending confirmation Simms Corner reconstruction is a priority in MoveSJ Phase 3, including:
 - a. Remove Harding Street West from Traffic By-Law Schedule K after Simms Corner is reconstructed; and
 - b. Remove Duke Street West, Lancaster Avenue, Prince Street and Dufferin Row from Traffic By-Law Schedule K after Simms Corner is reconstructed.
2. Arrange a tri-city approach with Moncton and Fredericton to advocate the province to implement an oversized load policy under Section 261 and 2001-67 of the Motor Vehicle Act (report Section 5.4);
3. Further enhance a permitting system for truck traffic in Saint John (report section 5.4) that iteratively increases the number of trucks that require such a permit such that:
 - a. Routes that more trucks are permitted to take are better defined by said permits in lieu of changes to general designated truck routes (in Schedule K); and
 - b. Revenues are generated to fund adequate enforcement and to address accelerated infrastructure degradation.

2 Introduction

The main challenge in planning for the movement of goods by truck is to balance the needs of the goods movement industry with those of neighbourhoods and core areas. In the case of Saint John, the New Brunswick Motor Vehicle Act defines a truck as:

“every motor vehicle designed, used or maintained primarily for the transportation of property “

The safe and efficient movement of goods by truck is very important to the Saint John and area economy given its industrial base and multi-modal terminals. An effective truck route system focuses truck traffic on a selected number of streets, improving safety and structural longevity of non-designated streets and minimizing impacts of heavy truck traffic on sensitive land uses. These are very important objectives for a sustainable transportation system.

Report Section 2.2 summarizes changes in the Saint John roadway network since 2002 and improved connections to Route 1 that offer opportunities to review and possibly redefine the City's goods movement strategy. In addition, Council has resolved to remove truck routes along designated cycling corridors (e.g. Metcalf Street). There may be similar recommendations made in MoveSJ Phase 3 as part of the Active Transportation Plan. Finally, a supporting piece to an effective goods movement strategy is enforcement. It has been a priority of City Council to develop a policy or bylaw that enables stronger enforcement of designated truck routes.

2.1 Study Background

Saint John has a diverse development pattern due to amalgamation and urban sprawl. Heavy trucks need to access property using many roads from a diverse industrial base which includes a working Port spread along the lower South and West parts of the City, the largest oil refinery in Canada, a liquefied natural gas terminal, a pulp mill and a paper mill on two different sites, other

industrial sites, two industrial parks containing a variety of industrial uses and potential future energy projects particularly on the east side of the City.

Goods movement is an important consideration given that Saint John is an industrial city. Access to City streets for use by trucks including those that form shortest routes (distance and/or time) and/or safer routes are important to trucking companies as well as the customers to which they are delivering. Goods movement by truck is important for the City and surrounding area, along with connections and transfers to rail, marine and air transportation modes.

Review and revision of the City's truck route network and its management are important considerations of the roadway strategy. Changes are to be considered to the current Truck Routes designated in the City's Traffic By-Law. Recommendations are also needed on goods movement policies for managing the designated truck routes, the movement of oversize / overweight loads and goods movement through and within the City

2.2 2002 Throughway and Truck Access Study

The 2002 Saint John Throughway Access and Truck Traffic Study provided some key input to the new Truck Route Plan, along with consultations with key stakeholders involved in freight and goods movement conducted in Phase 1 of MoveSJ. Changes to the city's truck route system that have occurred since the 2002 Study include opening of the One Mile Interchange, the future land use plan adopted in PlanSJ, potential impacts on non-truck routes, NBDTI input concerning Provincial Highways through the City and Long Combination Vehicle Permits that include City streets, management of oversized loads and best practices in other jurisdictions.

A review of the 2002 Truck Route Study identified the following issues at that time:

- Trucks were driving on Ocean Westway, a segment of Route 100 through a mostly residential area, from the Route 7 WB Ramp to the Route 1 interchange at Lorneville, or to Spruce Lake Industrial Park;
- Trucks were driving on Manawagonish Rd, a mostly residential segment of NB Route 100, from Route 7 interchange eastward to Fairville Boulevard;
- The truck route to the Saint John – Digby ferry terminal was through mostly residential areas on residential streets from Route 1 via Lancaster Avenue Overpass and the Market Place interchange;
- Trucks were driving through the commercial center at Lower Cove Loop to access industrial areas in east Saint John (e.g. the refinery) from Route 1.

The first issue, trucks using Route 100 (Ocean Westway), has been tempered somewhat since 2002 as the exit signage on Route 7 southbound to Route 100 is not signed as a truck route. This is expected to have reduced the number of trucks using Ocean Westway as an alternate route to Route 1 westbound, or Spruce Lake Industrial Park. However, trucks are still permitted on Ocean Westway. The duplication of the Ocean Westway and Route 1 truck routes is addressed further in Section 4.1 of this plan.

Another major change since the 2002 study is the construction of the One Mile House Interchange linking Route 1 with Rothesay Avenue, more specifically Bayside Drive. A key objective of this interchange was to provide a more direct route for truck traffic from Route 1 to the McAllister and Grandview Industrial Parks via Bayside Drive, and subsequently reducing truck traffic on Crown Street, City Road, Rothesay Avenue, and Loch Lomond Road.

An additional benefit of adding the One Mile House Interchange to the network was the potential for rerouting truck traffic away from congested and undesirable areas, including the Lower Cove Loop identified in the 2002 study. This issue was addressed by designating Water Street as a

no-truck route. Phase 3 of MoveSJ will review the impact of the interchange, redefining truck routes in the area and providing more direct truck access to industrial parks.

Another issue identified in 2002, namely Manawagonish Road, has since been addressed through bylaw changes. Ferry Terminal access is still an issue. The 2002 Truck Route Study recommended de-designated Lancaster Avenue, Dufferin Avenue, Duke Street and Prince Street as Terminal area truck routes after Simms Corner reconfiguration on order to avoid added truck traffic on Harding Street W.

It is also important to recognize that truck routes are not necessarily hazardous goods routes. In some of the larger metropolitan areas, hazardous goods routes have been defined as a subset of truck routes.

2.3 Strategic Transportation Plan Phase 1 (MoveSJ March 2017)

Phase 1 of MoveSJ (March 2017) includes an introductory section on the planning of truck routes. It summarizes a literature review on the subject, plus issues and truck route criteria from the 2002 Throughway and Truck Access Study.

2.4 Truck Route Plan Scope

According to the MoveSJ RFP, the scope of the Truck Route Plan is to consider changes that have occurred since the 2002 Study such as:

- the opening of the One Mile Interchange;
- future land use plan adopted in PlanSJ;
- potential impacts on non-truck routes of any Truck Route changes;
- NBDTI input concerning Provincial Highways through the City and Long Combination Vehicle Permits that include City streets; and
- best practices in other jurisdictions.

It is also intended to address a number of chronic “hot spots” in the existing truck route network listed further in this section that generate chronic public complaints about truck movements.

3 Existing Truck Route Network

3.1 Current Truck Route By-law

The current Traffic By-law and Weight Restrictions By-Law for the City of Saint John use a hybrid four tiered approach to managing truck routes:

1. **Permissive Schedule K** of designated “Truck Routes” shown on Exhibit 1 consisting of all provincial designated highways, most major arterials, and collectors within the city limits. In total, 65 road sections are included in Schedule K as designated truck routes in the City. In addition, trucks are permitted on other streets provided they use the shortest and safest route to/from a designated truck route truck route to/from the point of delivery not on a truck route. All freeways are designated as truck routes as are most major arterials. About 50-60% of minor arterials and rural collectors are designated as truck routes, plus 25% of urban collectors. A small portion (4%) of local roads are also designated as truck routes (i.e. primarily Old Black River Road, east of Cottage Road and the Industrial Park).

2. **Restrictive Schedule I** restricts trucks from using certain specified routes, even if they provide the shortest path between the point of delivery and the designated truck route. Six (6) such routes are in Schedule I, put in place to manage truck short cutting through sensitive areas which could have reasonably been interpreted as part of the shortest route described above. Weight restriction bylaws also allow for the prohibition of trucks on routes where there is significant deterioration of streets caused by truck traffic.

This restrictive truck route is used by some of the municipalities reviewed in this study. In most cases, heavy truck restrictions are used to protect road infrastructure that cannot bear heavy loads or roads where truck traffic would be unsuitable (e.g. narrow lanes, on or near local residential roads). However, local deliveries and collections are usually exempt from heavy truck restrictions if the location cannot be reached by any other road and provided that the route taken is the shortest possible on the truck restricted route. This is not the case with the Saint John Schedule I, and failure to adhere to this heavy truck restriction may result in fines under the Traffic By-law.

3. Heavy trucks are permitted on all other roads within the City limits if the route is part of the shortest and safest route to and from their point of delivery. Trucks are defined for both Scheduled K and I roads in the Traffic By-law as a commercial vehicle having a gross weight of 7,300 kg or more (excluding emergency vehicles). Definitions are also provided for other types of vehicles which are excluded from the by-law restrictions.
4. Weight Restrictions By-law limits weights on City streets during the Spring Weight Restrictions period. The only other weight-related restriction in the By-law allows the City's Chief Engineer to temporarily limit truck weight if "excessive deterioration" of the road occurs.

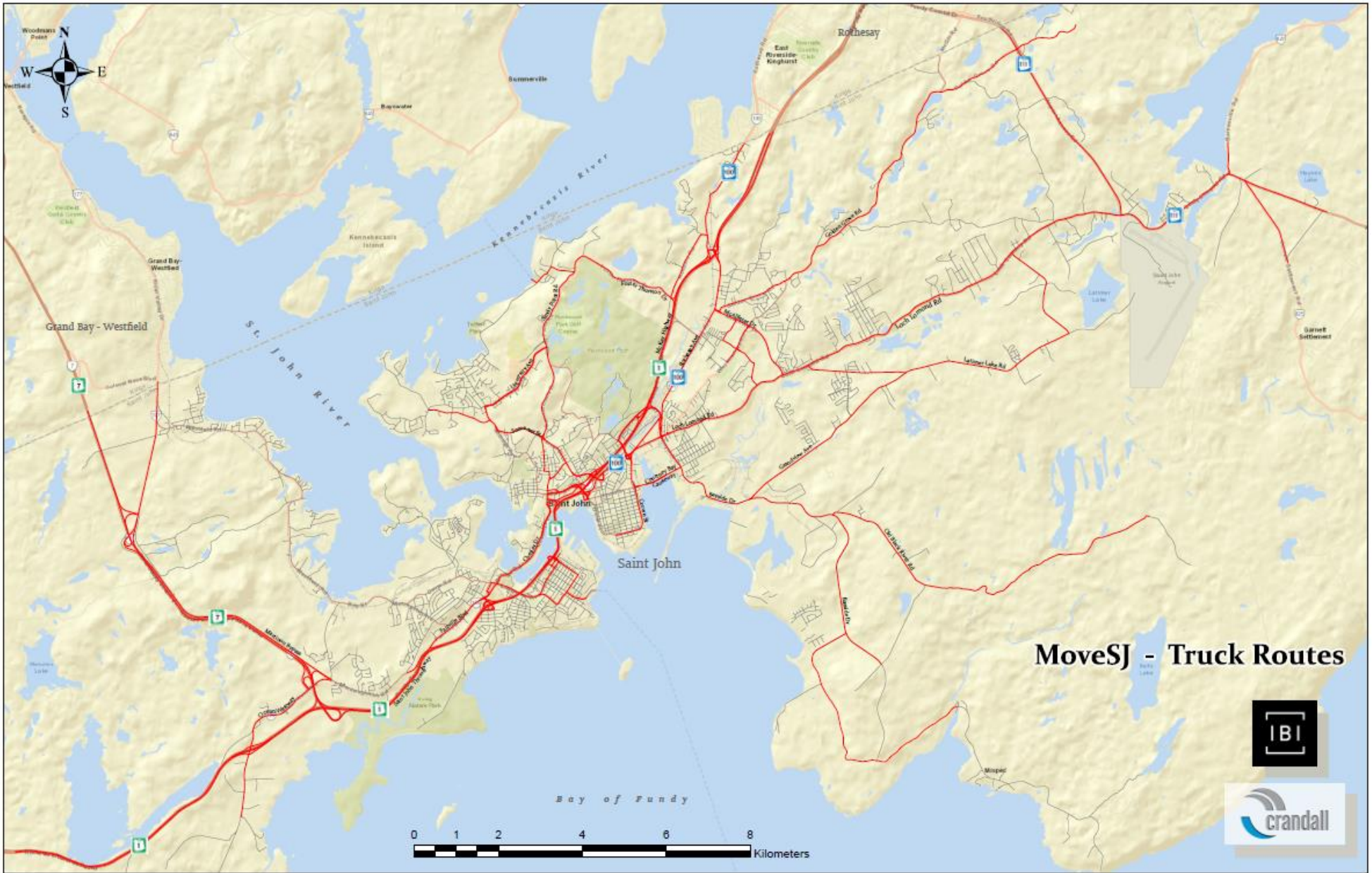
Many municipalities operate Permissive truck route policies where truck routes are clearly defined and designated. They therefore do not need to be signed as truck routes. In comparison, the Prohibitive or Restrictive truck route approach is not used as much mainly because it requires that all routes which are not truck routes have to be signed as No Trucks in order to effectively enforce their use. Some municipalities such as Saint John use a hybrid system of both types.

As part of the MoveSJ Phase 1 development, other truck by-laws within the Atlantic region were examined. Most take a similar approach to those for the City of Saint John, with the exception of restricted truck routes. The only other jurisdiction using a similar approach is the City of St. John's NL, where the entire downtown core is designated a non-truck area. One other noteworthy observation was the lack of uniformity in truck definitions. They range from as little as 3,000 kg in Nova Scotia to as high as 10,000 kg for Fredericton. The NB Motor Vehicle Act defines a truck as "*every motor vehicle designed, used or maintained primarily for the transportation of property*".

Elsewhere, the City of Hamilton, Ontario which is heavily industrialized, including three steel mills, and has comparatively high truck volumes also uses a Hybrid Truck Route Signing System with both Permissive and Restrictive truck route signing. This involves using permissive truck route trailblazing signs and augmenting the permissive signs with restrictive truck route signs at critical locations to reinforce the truck route system. Like Saint John, trucks may exit off of the permissive route to access their destination using the shortest distance from the truck route possible from non-designated City roadways.

Lambton County and the City of Sarnia, Ontario are also heavily industrialized with petrochemical refineries. They use a Restrictive heavy truck route approach where specific no-truck routes on County roads are established by by-law and signed. In their case, a heavy truck is a commercial vehicle with an actual or registered gross weight of 28,600 kgs (63,000 lbs) excluding emergency response vehicles, busses and municipal or provincial vehicles.

Exhibit 1: Existing Designated Truck Route Plan



3.2 Chronic Problem Areas

The following list of chronic truck route issues in Saint John is based on City staff information in July 2017 as updated:

- Industrial land use near residential areas generally. Examples are the Moosehead Brewery and Pulp Mill on West side, Refinery East, Port South and Port and Ferry Lower West areas. Other examples of chronic truck traffic noise complaints from residents either on or off designated truck routes include Harding Street W which is a designated truck route that traverses a residential street and the new Clipper Passage residential street backing on to the Chesley Drive truck route.
- The City's Traffic By-Law and Weight Restrictions By-Law are not consistent in regulating trucks.
- Schedules I and K of the Traffic By-Law provide the opportunity to designate certain travel routes to construction sites available in Traffic By-Law. Other rules in Weight Restrictions By-Law are also available.
- All provincial designated and regional designated highways (Routes) through the City (in addition to Route 1) are considered truck routes by the Province. However, trucks can bypass using Route 1 and travel on these highways instead through areas of sensitive land use (residences). The City is also responsible for maintaining these highways.
- Vehicle weight used to classify a truck in the Traffic By-Law is different than in the Motor Vehicle Act. They should they be the same.
- City's current weight restrictions by-law is limited to restricting weights of trucks in the spring and only when road deterioration is shown. Additional weight restrictions could be in place to protect City road infrastructure from heavy trucks, but would be difficult to enforce.
- There is minimal or non-existing policy to charge a fee for overweight or oversized loaded trucks in the City. As noted further in Section 2.4, some provincial and municipal oversized load policies include a permitting fee, refundable damage deposit and liability insurance requirement (for example \$1,030, \$1,000 and \$2M respectively in Sarnia/Lambton County Ontario). In Saint John this would provide an opportunity to offset the excessive impact of oversized loads on city streets, and provide information on where overweight or oversized loaded trucks are being used. However, the opportunity to offset costs of deterioration or damage to infrastructure may be limited at present.
- How do currently designed wide intersections to accommodate long trucks in all parts of the City impact a Complete Streets approach to these streets? One option is to have some areas such as South Central Peninsula have narrowed intersections that limit truck size and support traffic calming, pedestrian passage and Complete Streets.
- The above-noted Complete Street approach may negatively impact some businesses in, and goods movement to/from the South Central Peninsula. Therefore, consultation will be important in concluding an appropriate approach.
- City staff have asked whether current truck routes make sense. Trucks are being encouraged to use Route 1 and other Provincial routes to reduce truck use through the City.
- The City's current truck route by-law allows trucks to use non-truck routes between designated truck route and delivery origins and destinations using shortest and safest routes. This is a common technique in truck route planning across the country, for example allowing moving vans or delivery trucks for example into residential neighbourhoods for bona fid deliveries. Therefore, with this permissive truck route provision in Schedule K of

the City's truck route by-law, the question has been asked if Saint John require all of its existing designated truck routes.

- Schedule I of the truck route by-law restricts trucks from using certain specified routes, even if they provide the shortest path between the point of delivery and the designated truck route. This requires signage and active enforcement, which is usually complaint-driven to be effective, which is difficult when such complaints of heavy trucks on restricted routes are usually after-the-fact. Feedback is needed from Police and Provincial Commercial Vehicle Enforcement to judge the effectiveness or to improve the restrictive truck route provisions.
- The City is dealing with resource intensive industrial (rock hauling) including temporary hauling plans associated with land developments.

4 Truck Route Planning

4.1 Truck Route Designation Principles

The recommended seven (7) planning principles used in designating a truck route for Saint John are described as follows:

Consider social, environmental and economic impacts – The basic purpose of the Goods Movement Strategy is to determine the best method of routing trucks through the City so as to have the minimum visual, safety, noise and traffic impacts while retaining the most efficient system possible so goods can be delivered expeditiously. In other cities, it has been found that removing links from the truck route system will usually not decrease truck travel, but merely relocate it to other nearby routes. This in turn will typically increase overall travel distance and time for trucks, thereby decreasing overall road safety and contributing to an increase in air pollution, and trucking costs.

Routing consistency - While it not possible to be 100% consistent on decisions made in regard to goods movement owing to land use complexities, decisions should be made in a way that attempt to be as fair as possible to residents and businesses throughout the City. For instance, time-of-day truck restrictions after business hours or part-time truck routes can be used to create a compromise between recognized goods movement corridors and less compatible land uses (e.g., residential areas, hospitals, etc.). However, on a city wide basis this would cause significant problems for truck deliveries in the overnight period, so no new time-of-day or part-time routes are recommended for Saint John due to issues of equitableness and enforceability.

Avoid Parallel Route Duplication - All provincial designated and regional designated highways through the City (in addition to Route 1) are considered truck routes by the Province. However in some locations, for example along Fairville Blvd and Ashburn Road, trucks can bypass Route 1 and travel on a nearby parallel City street which involve sensitive land use. i.e. (residences). The City is also responsible for maintaining these highways, so the question is whether parallel truck routes are redundant.

Avoid Active Transportation Streets – The designated truck route system in Saint John includes a number of streets that are also bike routes as part of the Active Transportation system. Some have been removed as truck routes, for example Manawagonish Road from Ocean Westway to Fairville Blvd. in 2012 and a portion of Metcalf Street. In both examples, there were parallel truck routes available, so as a bike route it was deleted.

Minimize the demand for enforcement – The Saint John Police Force provide limited truck route enforcement because truck route violations are typically not a high priority for the service. Therefore, one of the guiding principles of truck route planning in Saint John is to use a system that is logical to the trucking industry so the routes do not require high levels of police

enforcement to establish and maintain compliance. For example, if too many truck routes were to be removed from the system, it would become very difficult to determine where the shortest distance to and from a truck route is, and becomes almost impossible for the police to enforce.

Route connectivity and continuity - The truck route system should be continuous except where it may involve dead end streets. Owing to the sprawling city form of Saint John and the location of industrial areas requiring truck access, some designated truck routes dead-end in the City, for example Ocean Westway, Old Black River Road or Red Head Road. However, most truck routes in the City are continuous.

Transfer truck traffic to higher quality facilities - If the truck route system is altered and the effect is simply to transfer truck traffic from one roadway to a parallel roadway with similar characteristics, the net effect would be to advantage some citizens or businesses and to disadvantage others. If a truck route segment is proposed to be removed from the truck route system, the preferred outcome is that trucks can be transferred to a roadway of a higher classification (i.e. from a Collector to an Arterial) or one that is better designed to carry truck traffic.

Match relationship of trucks to road category and roadway configuration – In preparing this strategy, consideration was given to the classification of roads within the PlanSJ Municipal Plan. The actual physical configuration of roadways as suitable truck routes was also considered in terms of lane widths, shoulders, curbs, sidewalks, etc.

4.2 Truck Route Planning Criteria

The following is a list of truck route planning criteria developed for MoveSJ that should be considered when reviewing any recommended changes to the existing truck route network:

PLANNING CRITERIA	SUMMARY DESCRIPTION
<i>Roadway Classification and Types:</i>	Typically within Saint John, truck route include all Provincial highways, most of the arterials and some of the collectors. Very rarely do local routes become classified as truck routes.
<i>Land Use:</i>	Truck routes are normally found in industrial and some commercial developments. It is desirable to avoid land uses such as school zones, senior’s complexes, and recreational facilities, and dense residential areas.
<i>Roadway Geometry:</i>	Truck routes can be sensitive to lane widths and other cross section elements, grades, intersection tracking, and vertical clearances.
<i>Environmental Factors:</i>	Truck routes should be selected to avoid areas where undesirable truck characteristics like noise and emissions could be an issue.
<i>Infrastructure Strength:</i>	The strength of roadway pavement structures and bridges play a role in selecting truck routes.
<i>Roadside Environment:</i>	Factors such as parking, transit, bicycles, pedestrians, and traffic calming on roads should be considered when determining truck routes.
<i>Connectivity and Continuity:</i>	A well selected truck route network will join the major truck generators such as industrial areas, and regional networks using continuous and mostly direct routes. One potential ramification in Saint John is the need to use routes that pass residential areas (i.e. Paradise Row, Hilyard Drive, Chesley Drive).

<i>Congestion:</i>	Selecting truck routes to avoid the major congested areas in the City helps to make the overall network more efficient and should be encouraged.
<i>Safety:</i>	Truck routes should try to avoid areas where challenges to safety are present by examining collision hot spots, especially where trucks are over represented in collisions.

5 Recommended Truck Route and Policy Changes

5.1 Recommended Truck Route Changes

The City has enacted a number of Traffic By-law amendments to alter its truck restrictions and routes. For example, sections of Red Head Road and Hewitt Road have been added to the Schedule K truck routes while sections of Prince Street and Manawagonish Road have been removed. The following is a list of other potential Schedule K truck route removals that should be considered based on availability of parallel truck routes and impacts on sensitive land uses.,

SCHEDULE K TRUCK ROUTE	LIMITS	CHANGE / RATIONALE
1. Harding Street West	Fairville Blvd to Main Street West	<p>The Harding Street W truck route issue is being addressed separately by City staff. At Simms Corner, westbound trucks (i.e. to Route 1) arriving from Bridge Street cannot currently proceed through to Fairville Blvd. These trucks currently access Fairville Blvd. via Main Street West and Harding Street West which are designated truck routes Trucks also use nearby Ready Street which is not a truck route. . This impacts homes on Harding Street W. The best solution to this issue involves reconstructing the Simms Corner intersection to provide westbound through movements, thereby avoiding the Harding Street or Ready Street detour.</p> <p>Reconfiguring Simms Corner to avoid trucks on Harding and Ready Streets was addressed in the 2002 Throughway and Truck Access Study. Complexities with this reconfiguration require a commitment of funding to address the issue.</p> <p>Other options for Harding Street W include removing Chesley Drive from Schedule K and redirect trucks to the Route 1. This could reduce the amount of truck traffic at Simms Corner and benefit nearby residential properties, but impact transportation service to the numerous industrial operations along Chesley Drive. However, restricting trucks on Chesley Drive is not currently feasible because it forms part of the province’s Route 100 through the City, and so trucks are allowed along this route.</p> <p>Other short-term options being considered by the City, separate from the ultimate Simms Corner reconstruction, is to make Ready Street a truck route instead of Harding, or have both Harding and Ready as truck routes. Continued</p>

		consultation with all involved stakeholders is required before a final short-term recommendation can be made. In the meantime, MoveSJ policy recommendations regarding on-street parking, pedestrian crossings, engine noise and idling will assist in managing the Hardy Street W issue.
2. Lower West Truck Routes		Remove as a truck route. The route traverses a residential neighbourhood with fronting residential and senior's residence. Access to ferry terminal provided by other designated truck route streets. According to the 2002 Throughway and Truck Access Study, once Simms Corner is reconfigured (see Route 2 above), truck traffic going to the Ferry Terminal should be directed to use the Catherwood Street interchange via Fairville Boulevard to Route 1. Trucks would be routed to the Market Place/Through way interchange to access the Ferry Terminal or the Port. Duke Street, Lancaster Avenue, Dufferin Row and Prince Street would no longer allow through truck traffic. This would be done after the improvements to Simms Corner are completed to avoid additional truck traffic on Harding Street. Market Place West, St. John Street, Lancaster Street and the Digby Ferry Road would remain as a truck route for access to the Ferry Terminal.
3. Churchill Blvd.	Visart Street to Somerset Street	Remove as a truck route. The route involves primarily medium density townhouses and apartment with institutional and commercial uses. Marked bike lane are on the street. It duplicates truck routes provided by Somerset Street and Wellesley Avenue.
4. Foster Thurston Drive	Route 1 to Sandy Point Road	Remove as a truck route given road condition and terrain. Redirect truck traffic to the Somerset Street and Samuel Davis Drive truck routes.

5.2 Rural Truck Routes

In addition to the above-noted potential truck route removals, consideration was also given to the number of designated Schedule K truck routes in rural parts of the City, such as Bayside Drive, Red Head Road and Old Black River Road. It appears that these routes are primarily intended to accommodate heavy truck traffic associated with isolated land use such as the Canaport LNG terminal, and natural resource operations such as pits and quarries. One alternative to designating truck route access for specific isolated users in these rural areas would be to specify truck access routes in the operating permits of these operations, but not include the routes in Schedule K. However, since these routes traverse large rural areas with limited land use / truck movement conflicts, it is recommended that these routes remain in Schedule K.

This is not the case with other rural truck routes that abut extensive rural residential properties, notably Golden Grove Road, Loch Lomond Road and Latimer Lake Road. Residing on these types of rural roads should come with an expectation of rural-type traffic conditions, but to many this may not include heavy trucks. However, Loch Lomond Road and Latimer Lake Road access the Saint John Airport, and Golden Grove Road accesses Provincial Route 111, and are therefore part of the region's multi-modal goods movement system. Unless the City has identified chronic resident concerns about truck traffic on these rural roads, no changes to Schedule K permitted truck routes on these roads are recommended. At the same time, one of

the Short Term recommendations is to encourage increased use of highways by trucks rather than rural routes.

5.3 Truck Restriction Signs

There are instances in which additional Truck Restriction signing is required in order to re-enforce areas with poor compliance or areas in which truck drivers may be confused. In Saint John there are 24 intersections that include prohibitive No Truck signage as shown below. The involved road sections are not included in Schedule I Truck Restrictions, so restricting use of these routes by heavy trucks cannot currently be enforced. However, the No Trucks signs, when accompanied by Trucks Permitted signs as shown below can help redirect some truck movements away from sensitive streets. In these cases the signs can be of value in benefiting affected property owners.

It is recommended that all of these Truck Restriction signs be removed except where included in Traffic By-law Schedule I. A complete an assessment of Truck Route signage along designated Truck Routes is also recommended to ensure they are appropriately labeled. Sign warranting should be based on:

- confirmed history of complaints for the area;
- truck volume data (particularly illegal movement data) to be referenced or collected to verify issue; and
- amendments to Traffic By-law Schedule I and K (for example, at the Red Head Road and Bayside Drive intersection shown here now that the section of Red Head Road to Hewitt Road has been removed from Schedule K).



This should include consultation with the local trucking industry to identify areas of confusion that warrant closer assessment of displayed signage.

Finally, using truck restriction signage is believed to be a better approach for the City than adding more regulations to streets not on a truck route when the City already has a complex Schedule K truck route system.

5.4 Managing Oversized Loads

The City of Saint John has identified a need for improved processes/laws around managing oversized and/or overweight loads in conjunction with the Province. When a large piece of equipment is shipped for a local or area delivery, the transporting company typically receives a permit from the local road authority. The City of Saint John does not have a similar permitting process for oversized loads transported across City streets, Provincial highways and Provincial bridges.

The City also wants to have some cost recovery from industry regarding oversized loads in the City including costs for studies, staff time to process permit requests and traffic management plans, and to recoup some accelerated road deterioration costs. Currently, the likelihood of cost recovery for oversized goods movement in the City is low unless damage is proven. The City also needs to change its weight restriction bylaw to extend outside of the Spring Weight Restriction period.

In comparison, the City of Fredericton and City of Moncton deal with oversized load permitting as follows:

City Moncton

The City has nothing specific in their by-laws to enforce their oversized permit process, but there is a mechanism to fine for damage to streets. Moncton believes that the current Motor Vehicle Act does not give them the authority to enforce penalties for violations of their permit process, but they are continuing to research this further with their solicitors.

The City receives on average five (5) oversized load permit requests per year. They have one staff person who manages all files related to protecting the streets by-law, which includes the oversized permits as well as curb cuts, service connections, utility work, street closure, etc. Processing each permit is about an hour of time, but by the time forms are exchanged and information is submitted by contractors (i.e. – proof of insurance), the entire process can take about a day.

City of Fredericton

Fredericton also has nothing in their by-laws to enforce their oversized permit process, but they admit this is a weakness they should address. The City issues 20-25 permits annually. Most require only 30 minutes to process. However, complex moves can take several days of staff time. The permits are managed by their transportation technician.

Other municipalities outside the province have processes/laws in place. An example from Sarnia Ontario with heavy trucking associated with the area petrochemical industry is provided below, with other examples provided to Saint John in 2017 for consideration to apply. The NBDTI and Ontario Ministry of Transportation examples are summarized below:

New Brunswick Department of Transportation (NBDTI)

Special permits are issued by NBDTI to allow the safe movement of oversized, and/or overweight, or non-conforming loads or vehicles on New Brunswick highways.

Section 261 (1) of the Motor Vehicle Act requires that any vehicle, with or without load, or any combination of vehicles with or without load, not conforming to the weights and dimensions set out in Regulation 2001-67 - Vehicle Dimensions and Mass must make application for, and obtain, a special permit in order to be authorized to operate such vehicles on New Brunswick highways.

Oversize Permits are issued to vehicles and/or vehicle combinations transporting indivisible loads that exceed any of the following limits:

- Overall width of 2.60 meters (8'6")
- Overall height of 4.15 meters (13'7")
- Overall length or overhangs for vehicle combinations and other dimensions as stated in Regulation 2001-67.
- Oversize permits may be obtained for a seven-day (single-trip permit), or extended periods with a three-month or one year permit, with restrictions on certain loads and routes.

Oversize permits for pre-manufactured homes - the maximum dimensions allow for:

- Mini-home - box width including corner boards 5.00 m; extreme width including eaves 5.50 m; overall length 30.0 m; maximum height on chassis 4.50 m.
- Modular home - box width including corner boards 4.32 m; extreme width including eaves 4.72 m; overall length 30.0 m; maximum height on chassis 4.72 m.

- Should the manufacturer hinge the roof such that the maximum height on the chassis does not exceed 4.50 m, the width of the modular home section may equal, but not exceed dimensions, as stipulated above for a mini-home.

Oversize and Overweight Permits are issued for vehicles and indivisible loads that exceed those axle group and/or gross vehicle weights (GVW) as outlined in Regulation 2001-67.

- Oversize permits do not authorize the maximum weights, as found in Regulation 2001-67 to be exceeded.
- In addition to seven-day (single-trip permits), longer periods of three-month or one year are available, these longer duration permits are subject to restrictions concerning weights, dimension, load type and routes.

Non-conforming permits are issued for specific vehicle configurations that are not included in Regulation 2001-67, but are approved at this time to operate in New Brunswick by special permit. Non-conforming vehicle permits are valid for a one-year period.

Ministry of Transportation Ontario Permit Requirements:

- Permit: Single Trip Permit
Definition: Defined as a 'Superload'. Loads in excess of 45.74m long, 5m wide or 200,000kg load
- Minimum of 5 days notice prior to the move.
- A bridge evaluation prepared by a qualified engineer for any bridge structure on the route.
- A traffic management plan for approval.
- A permit approval process that may take up to 6 months for complex shipments.

City of Sarnia, Ontario:

- Permit: Oversize/Overweight Load Permit
Definition: Loads in excess of 2.8m (8'-5") wide, 21.33m (69'-10"), 4.15m (13'-7")
- Permit Fee: Varies based on load and axles
- A refundable damage deposit in the amount of \$1,000.
- Proof of liability insurance in the amount of \$2,000,000.
- Approval signatures from various crossing parties for loads over 4.15m (13'-6") high.

The City of Saint John can refer to these examples in drafting a policy for oversized load permits. This could also include further discussions with NBDTI to settle details and coordinate with the province's process. A tri-city approach with Moncton and Fredericton should also be used to advocate the Province for any deficiencies in authority required to implement this process under Section 261 and 2001-67 of the Motor Vehicle Act. Furthermore, there is an opportunity to have an improved by-law, permitting process and communication process between the City and Province to require the transporting companies to communicate their plans in a timely manner for appropriate review. The City can also recover costs associated with due diligence on this permitting for example in reviewing route selection, confirming bridge and intersection capacities and ensuring no overhead infrastructure barriers.

The City discussed oversized load permitting with NBDTI in December 2017, mainly involving the Province's permitting process and considerations for the City. The province has controls in place for moves that trigger certain requirements in one of three categories based on the characteristics of the load, namely Legal, Illegal, or Illegal with Permit. The Provincial permits

have jurisdiction on Provincial highways. However if the oversized load destination requires use of municipal streets, the City of Saint John has no regulations in place to address this and Provincial permits have no jurisdiction on municipal streets. Section 261 of the Motor Vehicle Act gives a municipality the authority for issue their own oversized load permits. Also, Section 2001-67 provides for the regulating of weights and measures.

A draft oversized movement permit process has been prepared as part of this Truck Route Plan and is included in Appendix A.

Any process or procedure by the City of Saint John to manage the movement of oversized loads within the City, involving load size and weight, should first involve targeted consultation with and input from involved oversized load stakeholders. An overweight load vehicle is one that carries, at the most, more than the weight permitted on provincial highways. The provincial Motor Vehicle Act (MVA) Regulation 2001-67 defines the general dimension and mass limits by truck type and the number of axles for various highways where masses greater than 43,500 kg are permitted (Schedule B). In Saint John for example, on Route 1 up to 62,500 kg (B-Train Double) is permitted. On Route 100 through Saint John up to 56,500 kg is permitted. Any provincial highways not listed in Schedule B of the MVA have the 43,500 kg limit (5-axle Tractor Semi Trailer).

For the purposes on managing oversized loads on city streets, the maximum allowable weight limit without a special permit is suggested to be 43,500 kg, which is equivalent to the weight limit for minor provincial highways, as per the MVA. However, this limit could be further reduced to reflect the design of city streets compared to provincial highways. The weight limit could be confirmed once an oversized loads permitting process has been established and tested. For companies that regularly haul oversized loads in the city, this could involve applying for an annual permit and paying an annual fee. The fee could include an accelerated road deterioration component as part of the overweight load permit.

The oversized load permit process could be used to address requests to move overweight loads during the Spring Weight restriction time period. The City's current Weight Restrictions by-law requires that vehicles operating within the City not exceed 80% of the axle weights permitted under the MVA during the provincial Spring Weight Restriction period, except on those streets listed in Schedule A of the bylaw. Trucking companies wishing to move a load that exceeds the weight restriction currently must apply for a by-law change. This can take several weeks to move through Council. The oversized load permit process could be used to evaluate the route in question and give City staff the authority to fast track an approval. A separate fee structure might be considered for a Spring Weight Restriction exemption, but the fee for violation (currently at a maximum of \$50.00) should be greater than the permit fee.

One clear benefit of the oversized load permit process to the trucking and construction industry is the ability for City staff to issue permits to operate heavy trucks during the Spring Weight Restriction time period without waiting for by-law amendments (example: delivery of equipment to the JDI parking garage construction in the spring of 2017). This will help shippers to maintain schedules and avoid delays in goods movement.

The City should also consult with the goods movement stakeholders on restricting the movement of 53" tractor trailer units in the South Central Peninsula, except on the Truck Route planned in the Central Peninsula Neighbourhood Plan's mobility network (i.e. to the Port). This would apply to all large trucks plus oversized loads that do not have a destination within the Central Peninsula. Deliveries for businesses in the Central Peninsula area would be provided only by smaller commercial vehicles. This proposed restriction is similar to that provided by the St. John's NFLD truck by-law enacted in 2000. In that example, a truck tractor unit as defined by the Highway Traffic Act cannot operate in the Designated Area of the downtown unless it has a specific destination within the downtown area. Proof of destination within the Designated Area must be produced on request.

To support any restriction on the movement of large tractor trailer units in the South Central Peninsula, the City could either limit the size of loading zones in this area to accommodate only smaller commercial vehicles, and/or isolate larger loading zones to specific locations within the South Central Peninsula.

It is also important to recognize that designated truck routes are not necessarily oversized loads or hazardous goods routes. In some metropolitan areas, these types of goods movement routes have been defined as a subset of truck routes.

5.5 Managing Truck Noise

As part of this Goods Movement Strategy, the issue of engine retarder brakes, sometime known as compression brakes or Jake Brakes®, has been addressed. Land uses along truck routes experience associated truck traffic noises. The best way to reduce or avoid these impacts is through coordinated transportation planning and land use policies that move truck traffic away from sensitive noise receivers, most importantly residents, and reduce noise exposure by discouraging new noise-sensitive development near truck routes. Common techniques to shield sensitive land uses from truck noise include the installation of noise barriers, limiting engine idling, soundproofing of structures and/or routing traffic to reduce noise exposure.

However, in some cases the proximity of truck routes and sensitive noise receivers cannot be avoided. In these cases, information provided by truck manufacturers and truck operators suggests that, when properly maintained, modern engine brakes on large trucks do not produce any more noise than the same vehicle travelling uphill. It is also understood that poorly maintained or intentionally modified exhaust systems can result in engine braking that can be loud, having a negative impact on nearby quality of life.

There are two basic ways for a municipality to address truck engine noise impacts:

Curtesy Signing - Curtesy signs are a commonly applied approach used to discourage the use of engine brakes at specific locations, as is currently done in Saint John with this sign. However, it is recommended that this sign be simplified to “**Please No Engine Retarders**” to maximize driver readability from moving trucks.



Legal Prohibition - In provinces that allow for truck noise prohibition, British Columbia for example in residential areas, the signing of routes where the use of engine retarder brakes is prohibited is enforced through provincial and municipal legislation. However, since engine retarder brakes are an essential safety device for trucks on steep downhill slopes, prohibiting their use can create potential liability issues for the enforcer. Therefore, enforcing engine brake prohibition is very challenging, involving both a moving violation (the truck) and a noise by-law violation (the braking). This can require both a Police Officer (moving violation) and a By-law Officer (noise By-law) to enforce an engine retarder brake prohibition.

According to NBDTI, New Brunswick does not oppose the use of engine brakes. To date, NBDTI has also noted that use of legal prohibitions against the use of engine brakes would require the municipality to assume responsibility for trucks to stop effectively without their use.

Based on these issues associated with truck noise regulation and management, it is recommended that the City first review the authority and enforceability of enacting a by-law that

prohibits use of engine retarder brakes (Jacob Brakes) except in emergency situations within the City, and implement such a by-law contingent on this review.

In the absence of prohibitions, courtesy signs can still continue to be used to discourage engine brake use in residential areas. The legal and enforcement concerns associated with this type of signage are less than those related to prohibitions. However, the City should also consider issues related to the widespread use of any type of engine brake signage. These include sign pollution or clutter (i.e., the counter-productive effects of over-signing) and the installation and maintenance costs. Therefore, the City should consider using engine retarder brake signs on a limited basis, where a proven noise issue exists under the following conditions:

- Volume of truck traffic recorded;
- Proven history of complaints;
- Vertical alignment, downhill grade less than 3%;
- Frequent stopping location such as traffic control devices (i.e. stop signs, signals); and
- Proximity to noise sensitive receiver.

5.6 Truck Route Enforcement

In New Brunswick, the Department of Public Safety's Commercial Vehicle Enforcement Unit enforces provincial weight and dimension restrictions, speed limits, and conducts commercial vehicle safety inspections on provincial highways. They **do not** enforce truck routes on municipal roads. When truckers ignore the truck routes enacted by City of Saint John Traffic By-law, the City must enforce its own by-law.

The City's Pedestrian & Traffic Management Service supports safe, efficient movement of vehicles, bicycles and pedestrians. This includes enforcement of the City's truck routes designated in the Traffic By-law. The Saint John Police Force has the responsibility to enforce the goods movement provisions of the Traffic By-law.

Where active truck route enforcement is used in other municipalities, indications show that the potential average fine revenue can be as much as \$200,000 a year based on a review of peer experience. In addition to this revenue, there would be a decrease in road repairs costs attributed to heavy trucks which could provide savings to the City over a longer period. To achieve these truck route enforcement benefits, the City of Saint John needs an enhanced goods movement revenue stream from sources such as the recommended oversized / overweight permitting requirement.

APPENDIX A

DRAFT OVERSIZED LOAD PERMIT



CITY OF SAINT JOHN – OPERATING PROCEDURE (DRAFT)

PROGRAM: Transportation

PROCEDURE NO.:

SERVICE: Roadway Use Permission

ISSUE NO.:

SUBJECT: Oversize/Overweight Load Permit

ISSUE DATE:

1. PURPOSE

The purpose of this Procedure is to outline the steps taken to grant permission to move an Oversize/Overweight load over City of Saint John streets.

2. DEFINITIONS

2.1 Oversize/Overweight Loads: Oversized Loads are those which are excessive as, defined in the Provincial Motor Vehicle Act M-17 Regulation 2001-67. Overweight Loads are those loads having a gross mass in excess of 43,500 kg.

2.2 Applicant: The moving contractor requesting permission from the City to move an overweight/oversize over City streets.

3. RESPONSIBILITY

It is the responsibility of the Commissioner of Transportation and Environmental Services to ensure this Procedure is followed.

4. PROCEDURE

4.1 Moving Oversize/Overweight Loads or Equipment

4.1.1 Permission to move an Oversize/Overweight Load over City streets must be granted by the Commission of Transportation and Environmental Services or their designate as set out in By-law No. MV-10, *A By-Law Respecting the Traffic on Streets in the City of Saint John*.

4.1.2 When oversize/overweight loads are moved over City streets, the Applicant notifies the [City Service Area], by telephone or in person, and requests permission to use the street system to move such load or equipment.

4.1.3 The request is to be forwarded to Operations Manager, Transportation and Environment Services or designate for application process.

4.1.4 The Applicant must complete the APPLICATION TO MOVE AN OVERSIZE/OVERWEIGHT LOAD. Details on the proposed route, date, and time for the move, the nature of the load or equipment being moved and the expected duration of the move. When moving an oversize/overweight load on streets with power and/or communication infrastructure overhead, and the load is over 5 meters in height above the ground, NB Power/Saint John Energy and Bell Aliant must also sign the application.

- 4.1.5 The application will be accompanied by the applicable permit fee, as set out in By-Law MV-10.
- 4.1.6 Upon submission of the signed application, the Applicant must provide the City with ten working days advance notice prior to the commencement of the move.
- 4.1.7 City Staff determines the suitability of the proposed route to accommodate the move and determines if there are any restrictions relative to the time of year, the time of day, and/or the day of week that might prohibit the move.
- 4.1.8 City Staff determines if the proposed route is clear of any construction or street closures that would prohibit passage along the route and determines if the move will have any impact on adjacent land access.
- 4.1.9 City Staff determines if there are any requirements for public works Staff to provide assistance relative to existing municipal infrastructure located along the route.
- 4.1.10 If the move can be accommodated as requested, Staff will inform the Applicant of any conditions required as part of the approval. This information is recorded through the permit system.
- 4.1.11 If the move cannot be accommodated as requested, staff will contact the Applicant to discuss options to accommodate the move. Once an acceptable arrangement has been determined, staff will inform the Applicant of any conditions required as part of the approval.

Note: If the route involves movement over a Provincial Designated Highway, or a provincially maintained bridge structure, the moving Contractor is responsible for seeking the approval of the Province of New Brunswick Department of Transportation for permission to use the highway.
- 4.1.12 The City reserves the right to request a traffic management plan be completed by the Applicant, at the Applicant's expense, to demonstrate how the move will be completed with respect to routing, constraints, traffic control, overhead utilities, impacts to traffic operations and safety, and load capacity of roadway structures.
- 4.1.13 The City reserves the right to request a police escort be provided, at the Applicant's expense, if the load exceeds the traffic lane width.
- 4.1.14 The City reserves the right to not issue permits when spring weight restrictions are in effect when road bases are potentially soft. The decision to issue the permit will be evaluated based on the mass of the load and the route proposed.
- 4.1.15 Staff will prepare the approval (FORM XXXXX), listing the details of the move and any conditions required as part of the approval.
- 4.1.16 The Applicant must provide a damage deposit of \$1,000, which will be refunded 30 days after the move, at the request of the Applicant, and provide proof of public liability and property damage insurance coverage as Insurance and Indemnity (\$2,000,000 minimum) with the City of Saint John named as an additional insured.
- 4.1.17 The permit is given to the Applicant and a copy is kept on file in the Transportation and Environmental Services Department.

- 4.1.18 Staff will inform Public Works Department, other City Departments and affected outside agencies. Staff will forward a copy of the permit, including routing information, to the Province, as notification of the move and coordination that may be required between City and Provincial agencies.
- 4.1.19 The move will not commence until the applicant has received a permit from the Commissioner of Transportation and Environmental Services, and all utilities.
- 4.1.20 The applicant must follow all City by-laws and regulations related to the moving operation and will follow instructions of any civic official appointed by the City at any time.
- 4.1.21 The applicant will be responsible for any damages which may occur to any city streets and services during this moving operation.