

# Concept of Operations (CONOPS) for Snow Removal

Providence Emergency Management Agency

**Interim DRAFT V1.2**

24 August 2012



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## CONOPS for Snow Removal

The Concept of Operations (CONOPS) for Snow Removal and Appendices have been approved for implementation by:

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## **1.0 PURPOSE**

The overarching purpose of this *Concept of Operations (CONOPS) for Snow Removal* is to provide guidelines for the effective management, coordination and response to Snow Emergencies, Removal and/or Wintery conditions in the City of Providence by all City departments.

## **2.0 SCOPE**

This CONOPS is applicable to all City of Providence departments, employees and contracted vendors involved in Snow Removal operations.

## **3.0 OBJECTIVE**

This CONOPS establishes clearly defined standard operating procedures (SOPs) for snow removal. The objective is to reduce snow and ice hazards on roads and city owned sidewalks for the safety of our community. It is the goal and intent of the City to provide timely, efficient and cost-effective winter maintenance, snow removal and ice control on the roadways of the municipality for the safety and benefit of the City's residents and the general motoring public.

## **4.0 RELATIONSHIP TO THE EMERGENCY OPERATIONS PLAN (EOP)**

This document complies with the requirements of the Emergency Operations Plan. Users of this document are expected to be familiar with the Emergency Operations Plan.

## **5.0 AUTHORITY**

Authority for this plan is derived from the following primary documents:

- City of Providence Home Rule Charter
- City of Providence Code of Ordinances

## **6.0 SITUATION**

**6.1 General Situation.** All areas of Rhode Island are vulnerable to major winter storms. There are two distinct types of winter storms; the snow storm and the ice storm. Snow storms can range in severity from light intermittent flurries to the perilous blizzard. Ice storms are characterized by freezing rain that forms a layer of ice on roads, power lines, and other objects. Snow storms are caused by masses of polar and tropical air confronting each other and bringing about low pressure systems that can churn over areas as great as tens of thousands of square miles. As the winter temperatures in much of this country are cold, the resulting precipitation falls as snow instead of rain. Snowstorms are considered a serious threat in Rhode Island when they begin to approach blizzard proportions. The term "blizzard" is used to indicate the following conditions are expected to prevail for 3 hours or more: 1) winds of 35 mph or greater and 2) considerable falling or blowing snow reducing visibility to less than 1/4 mile. While

temperature is no longer a criterion for "blizzard" definition, temperatures below 20° F are highlighted as a life threatening condition in addition to wind and visibility criteria. A Winter Storm Watch is issued by the National Weather Service through the usual media networks when a significant winter storm is approaching. This watch is changed to a Winter Storm Warning when heavy snow or accumulations of snow, sleet, and freezing rain are expected. The Watch is upgraded to full Blizzard Warning when blizzard characteristics are expected.

**6.2 City of Providence.** Providence is the capital of Rhode Island and is the second largest City in New England. In addition to serving as the center of City government and home of the State Capital, Providence also is host to several federal, state, and local governmental agencies. According to the 2010 U.S. Census data, Providence's population is over 178,000. However, on a typical business day, the City's estimated population is over 275,000 people. The City of Providence occupies 20.53 square miles and is located 45 minutes from Boston and 3 hours from New York City via Interstate 95 that passes through the heart of the City.

## **7.0 ASSUMPTIONS**

- Due to the many variables that are inherent in New England weather, each storm and/or weather event may require slightly different effort and/or emphasis on any number of maintenance tasks, which together, determine the overall winter maintenance, snow removal or ice control strategy;
- It is not possible to maintain a black snow and ice-free road during a storm. It is the intention of the City to provide access for emergency services as well as practical, safe access to homes, businesses and municipal facilities during winter storms; and
- The Emergency Operations Center (EOC) will be the location of all major snow removal operations. A snow storm is considered "major" when the forecast predicts 4" or more of snow in a 24 hour period.

## **8.0 FUNCTIONAL ROLES & RESPONSIBILITIES**

### **Public Safety Commissioner**

The office of Public Safety Commissioner is responsible for the overall city-wide snow removal operations, parking ban and towing policies.

### **Emergency Management**

The Providence Emergency Management Director is responsible for coordinating all major winter storm emergency activities. He will coordinate the operation of the EOC and work in cooperation with representatives of all involved City departments. He will advise elected and appointed officials of the status of the snow removal efforts and effectiveness.

The PEMA Director is responsible for:

- Monitoring weather forecasts;
- Broadcasting up-to-date weather reports over the 800MHz Radio;
- Providing situational awareness reports;
- Maintaining citywide communications ;
- Through GPS monitoring determine effectiveness of snow removal operation;
- Assisting the Police Department in determining need for parking ban, road closures; ticketing and towing;
- Coordinating with the School Department on school closure or delays; and
- Acting as liaison to the State EOC.

### **Public Works Department**

The Public Works Department Director is responsible for:

- Hiring private vendors;
- Obtaining salt and sand;
- Monitoring weather forecasts;
- Conduct pre-season preparations for snow operation;
- Operator training;
- Safety training;
- Preventive maintenance of vehicles, plows and other related snow removal equipment;
- Physical treatment and snow removal from roads and inspection;
- Clearing debris related to the storm, such as trees, branches, etc.;
- Keeping storm drains open to avoid unnecessary flooding; and
- Coordinate with other departments as required.

### **Parks & Recreation Department**

The Parks and Recreation Department Director, under the direction of the DPW Director, is responsible for:

- Monitoring weather forecasts;
- Conduct pre-season preparations for snow operation;
- Operator training;
- Safety training;
- Preventive maintenance of vehicles, plows and other related snow removal equipment;
- Physical treatment and snow removal from roads and inspection;
- Clearing debris related to the storm, such as trees, branches, etc.;
- Keeping storm drains open to avoid unnecessary flooding; and
- Coordinate with other departments as required.

### **Communications Department**

The Communications Department shall be the agency responsible for all communications related services. The Director of Communications is responsible for:

- Monitoring calls for service;

- Coordinate with other departments as required.

### **Water Supply Board (WSB)**

The Water Supply Board Director is responsible for the uninterrupted operational and maintenance of the water system:

- Monitoring weather forecasts;
- Conduct pre-season preparations for snow operation;
- Operator training;
- Maintaining a list of personnel with CDL licenses that agree to plow for the City when needed;
- Safety training;
- Preventive maintenance of vehicles, plows and other related snow removal equipment;
- Physical treatment and snow removal from roads and inspection;
- Clearing debris related to the storm, such as trees, branches, etc.;
- Coordinate with other departments as required;
- Preventive maintenance of vehicles, plows and other related snow removal equipment; and
- To maintain access to water system operational facilities by the physical treatment and snow removal to access drives and parking areas.

**Request Procedures.** When the City DPW Director requests WSB staff and equipment for emergency snow removal:

- City DPW calls WSB T&D Dispatch: 401-521-6300, ext 7150 and requests to speak to a manager or supervisor;
- WSB will determine the availability of non-emergency operations personnel and equipment;
- A defined period of time must be determined;
- Rest period (as agreed with 1033) must be considered;
- Under DPW supervision, WSB personnel will be responsible for the physical treatment and snow removal from roads and inspection; and/or clearing debris related to the storm, such as trees, branches, etc.;
- WSB will be compensated by the City for personnel work hours, overtime and rest period expenses, and for equipment used; and
- City will be responsible for any and all injuries, including workman's compensation, and damages to PW equipment used for City purposes.

### **Providence Public School District (PPSD)**

The Providence Public School District is responsible for:

- Monitoring weather forecasts;

- Conduct pre-season preparations for snow operation;
- Operator training;
- Safety training;
- Preventive maintenance of vehicles, plows and other related snow removal equipment;
- Physical treatment and snow removal from roads and inspection of School Facilities; and
- Coordinate with other departments as required.

**Fire Department (FD)**

The Fire Department shall be the lead agency for fire suppression, emergency medical services, hazardous materials and technical rescue response to the effects snow /or wintery conditions.

**Police Department (PD)**

The Police Department shall be the lead agency for prevention, enforcing towing in response to a parking ban, providing traffic control at critical choke points to the effects of snow and/or wintery conditions.

**Human Resources (HR)**

The Human Resources Department Director is responsible for:

- Updating and distributing Winter Operations policy for drivers and snow removal teams;
- Coordinating the distribution and collection of completed Driver and Snow Removal Team Status sheets;
- Preparing the list of snow drivers (CDL and non- CDL drivers);
- Preparing non–drivers’ list (includes inspectors); and
- Updating drivers’ license information.

**Office of Neighborhood Services (ONS)**

The Office of Neighborhood Services (ONS) is the lead agency responsible for public outreach and for providing staff for snow removal operation to the EOC.

**Public Property**

The Department of Public Property is the lead agency responsible for coordinating snow removal at all Public Buildings and facilities. They are also responsible for the management of the City’s vehicle fleet.

**9.0 LOGISTICS SUPPORT & RESOURCE REQUIREMENTS**

The Providence Emergency Management Agency (PEMA) will coordinate all logistical support and resource requirements necessary to implement and track the City’s Emergency Management plans.

**10.0 PLAN MAINTENANCE**

All plans are maintained in accordance with Emergency Management Plans Maintenance Policy (Policy Number 2010-02).

**11.0 EXECUTION**

During major snow event it is the intent of the City to coordinate all snow removal activities from the Emergency Operations Center (EOC). Those departments involved in Snow Removal will assign staff to the EOC, when directed. All snow removal operations will be coordinated via vehicle installed Global Positioning Systems (GPS) on all City and contracted vehicles.

While this CONOPS establishes the procedures for winter maintenance, snow removal and/or ice control, one of the following may affect its implementation:

- Equipment Breakdown;
- Snow Accumulation in Excess of 1” Per Hour;
- Excessive Snow Accumulation;
- Freezing Rain or other Icing Conditions;
- Traffic Congestion;
- Emergencies; and
- Personnel illness.

**11.1 CONCEPT OF OPERATIONS**

**11.1.1 Overview.** The overarching goal is to coordinate all aspects of snow emergencies, removal and/or wintery conditions for the City of Providence.

**11.1.2 City Sectors & Task Force Assignments**

The City of Providence is divided into the following five (5) geographic sectors for Snow Removal. There are a total of eight (8) Task Forces (TFs) assigned for Snow Removal operations; five (5) TFs are assigned to each sector and three (3) TFs assigned to Priority Roads. A TF is made up of both Heavy and Medium (City and Vendor) plows, one (1) TF Leader and two (2) inspectors.

<b>Task Force &amp; Sector</b>	<b>Neighborhoods</b>	<b>Wards</b>	<b>Boundaries</b>
<b>1</b>	Downtown	NA	From Point Street, to South Main, to canal St, to Orms/State, abutting I95, to Allens Ave, to Point St.
<b>2</b>	Fox Point, College Hill, Wayland, Blackstone, Hope and Mt Hope	1, 2 & 3	From India St, east to South Main St, to North Main St, left on Randall St, right to I95.
<b>3</b>	Charles, Wanskuck, Elmhurst and	4, 12 &	From State St along I146/I95 to Kinsley

	Smith Hill	14	Ave, to Acorn, to Promenade, to Pleasant Valley Pwky, to Raymond, to Chalkstone, right on Academy Ave, left on Smith St to City Line.
4	Mt Pleasant, Manton, Valley, Olneyville, Hartford and Silver lake	5, 6, 7, & 15	From Harris Ave, to RT10, to Union Ave/City Line.
5	Federal Hill, West End, Reservoir, Elmwood, South Elmwood, Upper South Providence, Lower South Providence and Washington Park	8, 9, 10, 11 & 13	From RT10 to I95, west of Allens Ave, to City Line.
6	Sectors 2 & 3	NA	Priority Roads (63 [2=28 / 3=35])
7	Sector 4	NA	Priority Roads (35)
8	Sector 5	NA	Priority Roads (44)

**11.1.3 EOC Activation & Staffing.** The EOC will be activated according with the Providence Emergency Operations Plan (EOP) protocol. Situations that may require the activation of the EOC include, but are not limited to, when the need for enhanced coordination between City Departments in response to a major winter storm is deemed necessary. When activated, the EOC will function as a Coordination Center for the duration of the storm. Upon activation of the EOC personnel shall report to the EOC in accordance with the established schedule.

At minimum the following Emergency Support Functions (ESFs) and support will be activated:

ESF	Name
1	Transportation
3	Public Works & Engineering
5	Emergency Management
7	Logistics & Resource Management
13	Public Safety & Security
15	External Affairs
S	Administration
S	IT

**11.1.4 Participating Departments**

- Public Safety
  - Police
  - Fire
  - Communications
  - Emergency Management
- Public Works
  - Private Contractors
- Parks & Recreation
- Water Supply Board
- School Department

- Office of Neighborhood Services
- Public Property

### 11.1.5 General Priorities

#### **Heavy Equipment**

##### **First Priority**

Designated Priority Snow Roads  
Access Routes for Police & Fire Stations  
Access Routes for Hospitals  
Access Routes for Public School Facilities  
Hills  
Overpasses / Bridges  
Bus Routes  
Other High-Traffic Locations

##### **Second Priority**

Arterial and major collector streets and will be addressed once all of priority one locations are completed.

##### **Third Priority**

Collector streets, which normally have moderate traffic volume and should be addressed after all priority one and two locations are completed.

#### **Snow Clearing / Hand Routes**

##### **First Priority**

Fire Hydrants  
Public School Building steps, sidewalks and ramps

##### **Second Priority**

Non-School Public Building steps, sidewalks and ramps  
Parking Spaces

**11.1.6 Priority Roads.** The general approach to categorizing snow plow routes through a two tiered system is to identify those corridors that, for reasons of function or geography, are the most important for moving traffic through the City of Providence. General delineations were based on a rough parallel of those general descriptions provided for in the Federal Highway Administration's (FHWA) Functional Classification System Guidelines. The majority of Principal Arterial (PA) roadways are considered priority roads (Tier I) and the Minor Arterial (MA) roadways are considered Tier II. All other roads will be plowed as soon as equipment is available or are in the immediate area with available time. There are approximately 154 Priority Roads. See paragraph [14.0 Definitions](#) for additional detail.

Ward	Number of Priority Roads
1	8
2	10
3	10
4	7
5	6
6	7
7	6
8	9
9	7
10	10
11	18
12	21
13	12
14	7
15	16
<b>Total</b>	<b>154</b>

**11.1.7 Priority Roads, By Tier.** See Annex B – Priority Roads Detail.

**11.1.8 Providence Roads Maintained by the Rhode Island Department of Transportation (RIDOT)**

Summary of Non-limited Access Highways to be Maintained by RIODT in the City of Providence		
<u>Highway</u>	<u>From</u>	<u>To</u>
Allens Avenue	Eddy Street	Narragansett Boulevard
Narragansett Boulevard	Allens Avenue	Cranston C/L
Elmwood Avenue	Cranston C/L	Broad Street
Broad Street	Elmwood Avenue	Service Road No. 7
Hartford Avenue	Johnson T/L	Westminster Street
Westminster Street	Hartford Avenue	Service Road No. 7
Smith Street	North Providence T/L	Mill Street
Mill Street	Smith Street	Charles Street
Charles Street	Mill Street	Randall Street
Randal Street	Charles Street	Smith Street
Canal Street	Charles Street	Smith Street
North Main Street	Randall Street	Pawtucket C/L

**11.1.9 General Descriptions for Roadway Classification**

**Principal Arterial:** A major arterial roadway is a system of streets and highways that serve the major centers of activity in the City of Providence. These roadways are the highest traffic volume corridors that also carry the major portion of trips entering and leaving the urban area.

These roadways define the principal arterial system that carries much of the intra-urban as well as intercity bus routes.

**Minor Arterial:** A minor arterial roadway is a roadway that services trips of moderate length and serves to augment the principal arterial system. These roadways carry less volume than principal arterials but should not penetrate identifiable neighborhoods.

**Collector:** Collector roadways differ from principal and minor arterials in that they collect traffic from local streets in residential neighborhoods and channel it to the arterial system. These roadways receive less volume in traffic than principal and minor arterials. Collectors are moderately traveled local roads, but are functionally separate and serve different purposes in channeling traffic volume than principal and minor arterials.

**Local:** Local roadways offer the lowest level of mobility and usually no bus route access. These roadways are the ones that primarily serve neighborhoods for residential access and local trips. On these roadways, through traffic movement is usually discouraged and weight limits or restrictions on large truck access are likely.

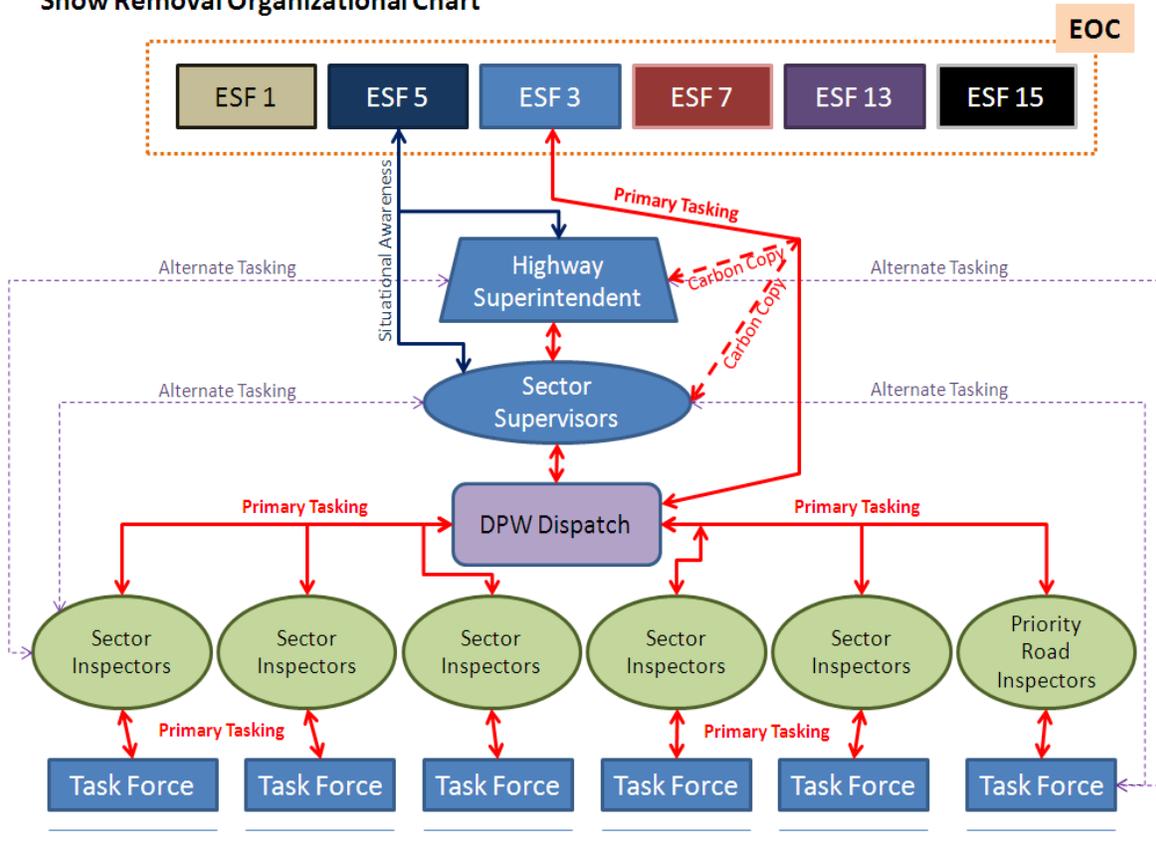
**11.1.10 Winter Storm Maintenance.** Upon notification of a winter storm, the Public Works Director or his designee will call out the appropriate City employees, equipment and private contractors to surface treat roads in the following manner:

- At the onset of the snow storm, the Public Works Director or his assign shall have salt/sand spreaders treat the initial 1 to 2 inches of snowfall on asphalt road surfaces. This will prohibit additional snow accumulations from bonding to the road surfaces. It will enable our asphalt roads to remain free as possible from ice or snow pack, during the actual storm as seen effective, and following the storm. It should be noted that salt has a much slower effect on melting snow and ice at temperatures below 25 degrees, and may not be applied until it is warmer.
- As the storm develops and 2 ½ to 3 inches of snow has accumulated, all of the drivers and available equipment will begin to plow their assigned routes. Trucks that have sand spreaders will spread sand on slippery areas after they clear away the snow. The operators of trucks that do not have spreaders will notify their supervisor when that route is ready for treatment for sand and/or salt mix. There are times when weather conditions are such that snow plowing will not take place until after the storm has ended. For example, snowfall has occurred or is occurring and the weather forecast is for a change to freezing rain. Plowing operations might be suspended to allow traffic some traction without the “glazing over” of a cleared surface. At the end of the freezing rain, normal plowing operations would begin again unless accumulations of ice and/or snow get to a point that traveling is determined to be hazardous by the Public Works Director or his designee.

- When a storm has ended, all road surfaces will be treated if needed, as determined by the supervisor in charge. Asphalt roads are treated with salt and/or salt/sand mixture (depending upon the severity of buildup on the asphalt surface). Salt is applied at a rate of approximately 250 lbs per lane mile. Weather conditions may require changing to another option and will be the responsibility of the Public Works Director or his designee.

### 11.1.11 Snow Removal Organizational Chart

Snow Removal Organizational Chart



Snow removal operations are organized, starting from the top, with the Director, DPW (EOC, ESF-3), to the Highway Supervisor, to the Sector Supervisors (Non-Union), DPW Dispatch (located at the Ernest Street Highway Garage) to the Inspectors and final to the Task Forces (DPW Crews and Vendors). Normally, all tasking comes from DPW Dispatch directly to Inspectors; this is the Primary and accepted method. Both the Highway Supervisor and Sector Supervisors can made direct taskings to Inspectors and Task Forces, however this is Secondary and least accepted method.

DPW primarily tasks DPW resources via the 800 MHz radio system operating on the “Public Works” TalkGroup. DPW uses Nextel telephones to communicate with Vendors. The Inspector & Supervisor TalkGroup is designated at “City-Wide.”

DPW resources generally report to DPW garage all at the same time 2 hours before snowfall. Vendors are called in advance and report to garage 2 hours after snowfall begins, depending on the time of the storm. Once private vendors report to work they punch in (DPW Dispatch) and report to their staging area to meet with their assigned Inspector. Once at the Staging Area Vendors are assigned a radio and are given a map of the area to plow.

For the most part DPW resources are utilized to do pre-treatment of roads while Vendors supply most of the heavy equipment for snow plowing Priority Roads.

#### **11.1.12 Manning**

The City of Providence has approximately 120 full-time personnel assigned to its winter maintenance operations across four departments; Public Works, Parks, Public School District and Communications. There will be supervisors assigned to a specific period that will be responsible to direct and coordinate the activities for snow removal during their assigned period. These supervisors will assign employees to respond to the storms as required and will make every attempt to place employees most familiar with specific routes into those assignments during snow emergencies. Employees assigned to snow removal shall be responsible for the completion of their assigned route and appropriate snow removal based on weather or roadway conditions. Each person assigned to a specified route shall be responsible for monitoring its condition and shall maintain communication with the assigned supervisor to report on their progress and the effectiveness of the deicing and plowing efforts. Supervisors will be responsible to direct and coordinate work crews to complete snow and ice removal in accordance with established priority rules.

#### **11.1.13 Safety**

There are NO SPECIAL driving privileges for snow plow operators. The primary objective for snow and ice removal operations is the safe travel for all motorists and snow plow operators. Snow removal personnel must constantly evaluate their actions and monitor their ability and effectiveness to provide safe travel for all motorists and pedestrians. Snow removal personnel shall familiarize themselves with safety inspections and safe-operating guidelines as established below as well as additional procedures that may be implemented as necessary.

- Thoroughly inspect all equipment before, during and after each use. All lights, brakes, windshield wipers, exhaust systems, tires, and steering components are to be maintained in a safe and dependable manner;
- All mechanical problems will be reported promptly to the appropriate supervisor;
- Employees are to utilize good judgment and appropriate driving speeds during adverse weather conditions especially during snowstorms or at night or during limited visibility;
- The rights of other motorists are to be considered. Employees are to utilize appropriate discretion when assisting or reporting stranded motorists or vehicles to the Police Department;
- Know your route;
- Traffic laws are to be observed at all times;

- Seatbelt use is mandatory;
- Avoid backing up; use a spotter/guide when possible;
- Appropriate safeguards will be utilized to prevent frostbite and hypothermia including the use of proper clothing and maintaining communication with other snow removal personnel at all times; and
- Drivers who are fatigued are encouraged to alert their Supervisor and remove themselves from the road in order to avoid accidents, damage to private property or City resources.

#### **11.1.14 Defensive Driving for Snow Plow Operators**

There are only four (4) accidents that are considered as non-preventable:

- When legally parked;
- When struck in the rear while proceeding in the proper lane of traffic at a safe and lawful speed;
- When struck in the rear while stopped in traffic due to conditions and in compliance with traffic signs, signals or officer; and
- When struck in the rear while waiting in the proper lane to make a turn.

Drivers are highly encouraged to use the *“Scan-Communication-Cushion of Safety (SCC)”* technique to improve safety for themselves and the traveling public.

##### ***Scan***

- On highway 12-15 seconds ahead
- On secondary roads ¼ mile ahead or 1 city block
- Check mirrors every 3-5 seconds

##### ***Communication***

- Use signals
- Lane Position
- Taping the Horn
- Use Warning Lights

##### ***Cushion of Safety***

- Minimum of 5 Second Count (double in bad weather)
- Adjust Speed
- Watch Blind Spots
- Scan 3-5 seconds
- Avoid positioning in Blind Spot

#### **11.1.15 Reporting Accidents**

All accidents are reportable. For accidents involving City plow trucks only (to include vendors), the operator should report it immediately to their supervisor and call the police to investigate.

For all other accidents drivers should render assistance as needed (call for help, police or emergency medical services), use universal safety precautions in treating injured and immediately to their supervisor.

#### **11.1.16 Training**

All employees of the Public Works Highway Department and any other city employee holding a Commercial Driver's License (CDL) are expected to attend all training and/or instructional classes as deemed necessary to perform their jobs satisfactorily. All training activities must be approved by the department head and related expenses will be covered by the City of Providence, unless noted prior to training. The City will enforce disciplinary procedures as necessary to ensure all employees receive their required training and/or instructions, not to conflict with union labor contract.

#### **11.1.17 Inspectors**

There will be a number of inspectors each assigned to Task Forces and sectors in the City related to the snow removal operation. In order to ensure that this plan is executed in a professional, proficient and effective manner the City will select qualified individuals from departments who are interested in serving as inspectors during a snow storm.

#### **Criteria for Selection**

- The applicant must be familiar with the City of Providence;
- Have access to a City vehicle;
- Have a valid Rhode Island driver's license;
- Have the willingness and proven ability to perform supervisory duties;
- Be willing to work extended non-traditional hours; and
- Have excellent verbal communication and written skills.

#### **Duties**

- Inspectors will supervise and report on snow removal efforts in the assigned geographical locations in the City. Each inspector is responsible for:
  - Assisting with the management and direction of City and Vendor snow removal resources;
  - Ensuring that plow operators observe safe operations procedures;
  - Identifying, documenting and reporting any significant problem;
  - Immediately alerting the Highway Superintendent when a significant problem exists;
  - Submitting a written report to the Highway Superintendent by the end of the shift;
  - Inspecting the quality and thoroughness of snow removal operations;
  - Reporting on progress and conditions of the snow removal as a whole; and
  - Enforcement of Snow Ordinances.

**11.1.18 Parking Ban**

During declared snow emergencies parking bans may be issued in the City of Providence. The purpose of the parking ban is to allow winter maintenance crews unobstructed snow removal and ice control routes, as much as possible, to maintain the maximum effectiveness of their efforts.

**11.1.19 Towing**

The City has the right to tow or ticket violators. When a parking ban has been issued, parking regulations are strictly enforced and abandoned vehicles will be towed, including permit issued vehicles. Motorists are encouraged to observe traffic rules to avoid tickets or towing. The City will make every effort to alert the public of the parking ban through the news media, community contacts and the City's web site.

**11.1.20 Private Vendors**

Depending upon the need, independent contractors with equipment and drivers are called upon to assist the City with snow removal operations by the Director of Public Works. As part of the agreement, each vehicle must be equipped with an approved GPS device and each driver must hold a valid CDL license, when applicable. Compensated time will begin only when the hired equipment is on City-time designated by the time card. Hired equipment shall meet State of Rhode Island Division of Motor Vehicle and DPW minimum safety standards. The vendor shall be in compliance with the State Worker's Compensation Insurance and assumes all responsibility for any liability incurred by the rented equipment or its operators during the term of operations to which it is assigned. A Certificate of Insurance for General Liability, Auto Liability and Workers' Compensation designating the City of Providence as additionally named insured must be submitted, as stated in the RFP. All vehicles must be equipped with cellular phones. The following procedures are to be followed by hired private contractors:

- Report to a supervisor at the DPW garage on Ernest Street;
- Punch a time card in and out of the DPW garage;
- Receive instructions on assigned routes to be cleared;
- Sign for and receive instructions for the an 800 MHZ radio;
- Must be familiar with the assigned routes;
- Report any abandoned vehicles on the assigned routes, via radio;
- Notify the supervisor of any other issues encountered during the shift; and
- When completed the assigned work log in the time, the date and the completed routes.

**11.1.21 Level of Service**

It is the intention of the City to maintain a snow and ice free environment during a storm. It is the goal of the City is to provide safe access during a storm. The City shall strive to reduce snow and ice hazards on roads, ramps, and City owned sidewalks. All operational decisions regarding the pre-salting, scheduling equipment operators and private contractors shall be based upon this goal. The Public Works Department shall conduct removal operations throughout snow storms to keep priority accesses open for vehicles and curb traffic. It is the policy of the City to begin snow removal operations upon accumulation of two inches of snowfall. Pre-treatment

and ice control may be addressed in advance of a storm, during the actual storm as seen effective, and preceding the storm. It should be noted that salt has a much slower effect on melting snow and ice at temperatures below 20 degrees, and may not be applied until it is warmer. Issues in regards to neighborhood RIPTA bus stops should be addressed to the RIPTA, Director of Safety at 401-781-9400.

#### **11.1.22 Snow Management**

Snow management involves staff and services. The responsibility for providing snow and ice management for the City of Providence infrastructure rests entirely with the Department of Public Works, with the cooperation of the departments listed above. Snow and ice management is considered emergency work in that roadways must be cleared any time of the day or night to provide the best reasonable road conditions for the Police and Fire Departments to respond to emergency calls. The DPW will salt and sand for black ice and light snow conditions and plow off the roadways during more significant storms. The City's snow and ice management strategy has been carefully prepared to meet the needs of the City of Providence. The resulting plan follows clearly identified routes when removing ice and snow from the streets.

#### **11.1.23 Equipment**

The City Snow Removal Crews utilize all the assets available as needed to address snow emergencies. Equipment is maintained by staff as well as outside services on a regular basis. Records of all equipment services performed are maintained and are available in the DPW office. The goal is to have all snow equipment operational by November 1<sup>st</sup> of each calendar year.

#### **11.1.24 Plowable Roadways**

The City is responsible for maintenance of 432 miles of roads. Approximately 150 miles of the 432 miles is classified into priority plowing. The balance of roads will be plowed and sanded as time allows.

#### **11.1.25 Ice Removal**

- The City does apply rock salt to their roadways at a minimum amount;
- The City does add salt to pile of sand to keep it pliable all winter; and
- Salt is applied in drifting situation to hills, curves, and intersections. Otherwise, it is used for all other roadways. Sand is used in below zero weather (salt does not work).

#### **11.2.26 Driveways & Sidewalks**

The City does not have any obligation nor are we able to clean the snow out of driveways or sidewalks. It is the responsibility of residents and business owners to clear snow on private property. Considerations about snow removal from driveways:

- Standing in your driveway facing the road, shovel all your snow to your right at driveway entrance. This way the snowplow will take the snow down the road;
- If possible, do not plow your driveway until the snowplow has gone by; and
- Do not plow any snow from driveways onto the City roads.

**Note:** See *Annex C: City Snow Ordinances*

**11.1.27 Schools**

The Public School Department has the responsibility for the clearing of snow and winter treatment of the City school access roads, parking lots and side-walks. On days when school is in session, winter maintenance efforts must be timed to coincide with bus routing and delivery. All operations are coordinated in accordance with the school *Snow Plan* and Snow Response Team (SRT).

**11.1.28 Staging Sites**

The following Staging Sites have been established through-out the City for Snow Operations:

Ward	Sector	Staging Area
1	2	Shell Gas @ Station Benefit/Wickenden St
2	2	2A Butler/Blackstone Blvd 2B East Side Marketplace @165 Pitman S)
3	2	Hope High School @ Hope/Olney
4	3	7/11 Store @ 549 Charles St
5	4	Walgreens @ Chalkstone/Academy
6	4	Stop & Shop @ 850 Manton Ave
7	4	Steven Shaw Police Sub-station @ Pocasset Ave/Webster Ave
8	5	Ocean State Job Lot @ Reservoir Ave
9	5	CVS @ 960 Broad St / Thurbers Ave
10	5	Wendy's @ Public/Eddy
11	5	Wendy's @ Public/Eddy
12	3	State House @ Smith St
13	5	Bank of America @ Dean/Atwells St
14	3	Parking Lot @ Admiral/River
15	4	Price Rite Plaza @ Atwells/Valley
Downtown	1	Ice Rink

**11.1.29 Weather**

Adverse weather is unavoidable, but it is possible to mitigate the threats it poses on the surface transportation system, through timely, accurate, reliable, and user-friendly road and weather information that supports surface transportation. In addition to ensuring the safety, mobility, efficiency and productivity of the transportation system, weather information for surface transportation will play an increasingly important role in emergency preparedness at all levels of federal, state, and local planning and response.

Because of their responsibilities involved in snow removal, personnel need to travel in all weather conditions, and knowledge of current, forecasted, and historical road and weather conditions assists in the completion of the agencies' mission. Furthermore, they can use road and weather information to make the surface transportation system safer for the traveling public and to inform travelers of potentially dangerous conditions.

When activated, the Emergency Operations Center will issue periodic weather forecasts using the following guides.

Weather Information Provided by the EOC to Plow Task Force		
Timing	Type of Information	Application
Pre-Storm	<ul style="list-style-type: none"> <li>• Timing/onset of the weather event</li> <li>• Rain vs. snow</li> <li>• Temperature trends</li> </ul>	Key for anti-icing operations, which aim to prevent the bonding of ice to the roadway by spreading chemicals prior to or in the early stage of a winter weather event, allowing easier removal by mechanical means.
During-Storm	<ul style="list-style-type: none"> <li>• Intensity and duration of the weather event</li> <li>• Temperature trends</li> </ul>	Key for snow and ice removal operations. Based on the forecast, various tools could be used to remove snow and ice from roadways or to improve traction, including de-icing, snowplowing, and sanding.
Post-Storm	<ul style="list-style-type: none"> <li>• Exit timing of the weather event</li> <li>• Blowing snow</li> <li>• Temperature trends</li> </ul>	Key for snow and ice cleanup operations.

See Annex E for the *Weather Forecast Template*.

### 11.1.30 Other Considerations

Every effort should be made to keep individual and equipment time sheets up to date. If at any time an operator is involved in an accident of any kind, he must immediately notify the police, supervisor and fill out an accident report. These accidents include vehicles, equipment, private property, manholes, etc. If unable to reach a supervisor or the police, the operator must make sure to document the incident, recording the date, time, type of accident, vehicles, property, or persons involved and any other information available at the scene.

### 11.1.31 Operator Guidelines

**Pre-Operation:** All fluid levels will be checked and filled to proper levels. All lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.

**Operation:** During operations the operator is responsible for watching all gauges on the truck or equipment, the chain condition and cutting edge condition. The cutting edge will be replaced when there is a ½” inch minimum between it and the moldboard. All bolts must be in place and kept tight at all times. Shear bolts on the plow frame should be checked periodically. If the cutting edges need repair or replacement, or the chains need attention, it will be done right away to avoid costly and time consuming repairs later. Care should be taken to maintain even and straight cutting edges.

Vehicle speed is of primary concern during snow operations. It is the City's goal to get streets cleared as quickly as possible after a storm event, but not at the expense of safety. Drivers must resist the urge to get the job done in a hurry at the expense of their own safety or safety of others. Plow drivers must use their best judgment to determine what vehicle speed is safe for their vehicle. In accordance with Snow Operations the following maximum vehicle speeds shall be followed:

- 25 mph maximum at any time during Snow Operations;
- 20 mph maximum when applying treated salt to avoid bounce scatter of the product off the roadway;
- 20 mph maximum when plowing travel lanes; and
- 15 mph maximum when plowing gutter line (curb to curb).

**Post-Operation:** Before parking any truck or equipment, all fluid levels will be checked and filled. Blades or bolts, which need replacing, will be taken care of unless told to do otherwise. Chains that need repairs will be repaired. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to the supervisor. The supervisor will determine importance and will assign the repairs according to schedule. Hour meters will be checked and, if service is due, mechanics and supervisors must be notified. All vehicles must be fueled at the end of each shift.

## **11.2 COORDINATING INSTRUCTIONS**

**11.2.1 Activation.** Activation of this CONOPS begins when the need for enhanced coordination between City Departments in response to a major winter storm is deemed necessary.

**11.2.2 Snow Removal Planning.** Planning for snow removal operations begins when (1) one inch or more of snow is expected to accumulate.

**11.2.3 EOC Snow Phone Number (ESF-15 / ONS Direct):** 401-680-8080

**11.2.4 Snow Removal Talk Group:** City-Wide

**11.2.5 Ride-Along:** The City has established a policy for prohibiting "ride-along" on any City owned resource.

**11.2.6 Plow Down Policy:** The City "plow down" policy when transiting the City. City plow drivers, when practicable and safe, have their plow blade in the down position at all times. This applies to activities such as traveling back and forth to Public Works for shift changes, to reload material and for breaks.

**11.2.7 Material 75% Rule:** The City has established a material (sand/salt) reload policy. City and Vendors equipped with material spreaders will return to the sand/salt pile when their have expended approximately 75% of the on-board material capacity. During their transit back to

the sand/salt pile spreader equipped vehicles will travel on Priority Roads and expend their remaining material (25%). No vehicle should transit back to the sand/salt pile with an empty spreader. City and Vendors are encouraged to take varying routes back the sand/salt pile during the course of the storm.

**11.2.8 Back-Up Policy:** The City has established the following “back-up” policy:

- Avoid backing-up when possible (there is a massive blind-spot to rear);
- Use a ground-guide;
- Agree on the hand signals before starting;
- Get out and look;
- Roll down window; and
- Turn down radio.

**12.0 ADMINISTRATION & LOGISTICS**

**12.1 Administration**

**12.1.1 Information and Complaints.** Information about road conditions and operations can be obtained from the Director of Public Works. Complaints should be directed to the Office of Neighborhood Services (ONS). Complaints regarding individual snow plow operators (contracted vendors) must be submitted in writing, signed and filed at City Hall. Complaints regarding City snow plow operators are complied and forwarded by ONS to Human Resources. ONS will capture relevant information, date, name, address, phone, email, truck number, description and general summary of the incident. All complaints will be reviewed by ONS.

**12.2 Logistics**

**12.2.1 Snow Removal Resources.** The City has the following resources available for winter operations: Personnel, Equipment and Material.

Snow Removal Resources						
DEPARTMENT	Public Works	Parks & Recreation	Public Schools	Communica-tions	Public Property	Water Supply
<b>RESOURCES</b>						
<b>Personnel</b>						
<i>CDL Operators</i>	<b>30</b>	<b>30</b>	<b>0</b>			
<i>Non-CDL Operators</i>	See Laborers	<b>5</b>	<b>0</b>			
<i>Mechanics</i>	<b>7</b>	<b>3</b>	<b>0</b>			
<i>Laborers</i>	<b>10</b>	<b>3</b>	<b>0</b>			
<i>Other</i>			<b>0</b>			
<b>Equipment</b>						

<i>¾-ton Pickup</i>	<b>5</b>	<b>0</b>	<b>0</b>			
<i>1-ton Pickups</i>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>		
<i>10-Wheel Dump Truck</i>	<b>2</b>	<b>0</b>	<b>0</b>			
<i>6-Wheel Dump Truck</i>	<b>27</b>	<b>2</b>	<b>0</b>			
<i>Backhoe</i>	<b>1</b>	<b>2</b>	<b>0</b>			
<i>Front-end Loaders</i>	<b>1</b>	<b>1</b>	<b>0</b>			
<i>Grader</i>	<b>0</b>	<b>0</b>	<b>0</b>			
<b>Material</b>						
<i>Sand</i>	<b>2000 Tons</b>	<b>0</b>	<b>0</b>			
<i>Salt</i>	<b>0</b>	<b>0</b>	<b>0</b>			
<i>Mixed</i>	<b>2500 Tons</b>	<b>0</b>	<b>0</b>			
<i>Other</i>	<b>0</b>	<b>0</b>	<b>0</b>			
<b>Private Vendor</b>	<b>90</b>	<b>0</b>	<b>8</b>			

**12.2.2 Materials**

The Public Works Department (DPW) uses approximately 2,500 tons of rock salt and 6,000 cubic yards of sand each season. The sand is used as an abrasive and is applied to the road to improve the public’s motor vehicles traction. Salt is employed by DPW as a de-icing and anti-icing agent. The entire supply of sand is stockpiled at the DPW yard. The material is stockpiled untreated. Rock salt is purchased from a supplier as needed. DPW stockpiles a quantity of up to approximately 500 tons. Unless weather conditions require a different approach, winter maintenance routes are treated with a mixture of sand and salt. The mixture is maintained at a minimum of one part salt to three parts sand. The mixture, as determined by the Public Works Director, is applied to the roadway where traffic can work the mix traveling either way. The mixture, in conjunction with traffic action, creates a watery brine melting snow and/or ice, and resisting snow and ice packing on the roadway. The road crown further assists with the spreading of the mixture brine. The sand/salt mixture is only effective to approximately 20 degrees Fahrenheit. Other deicing agents are effective to lower temperatures, but cost and need for specialized equipment have forestalled their use to this time.

**12.2.3 Routes.** Currently, the City is divided into 5 major plow and/or treatment routes. All of the routes encompassing the City's major artery are assigned to one each of the City's equipment. Additionally, there are a number of private vendors who work under the supervision of the DPW Director and are assigned to specific routes.

**12.2.3.1** The City has no assigned snow routes therefore snow routes are divided in 2 Tiers: Tier I and Tier II.

1. Priority routes are roads that will be plowed first and continuously maintained to effectively traffic conditions. Priority routes will be assigned to snow cleaning task forces.
2. As priority streets become clear, snow removal operation will move into neighborhood zones. Neighborhood zones are organized into single or multiple political Wards.
3. Cleaning of City owned sidewalks, city buildings and schools are the last to be cleared.

**13.0 COMMAND & SIGNAL**

**13.1 Signal**

**13.1.1 On-Scene Coordination.** Providence is a NIMS compliant City which uses the Incident Command System for all major incidents. The Incident Commander (IC) is responsible for on-scene coordination during the early hour of the event. This coordination may transition to Unified Command.

**13.1.2 City Communications.** The Department of Communications will support the snow removal efforts by monitoring calls for service and determining trends. The City will conduct its operations using 800 MHZ radios. The Snow Removal Talk Group is designated as City-Wide. Each department will coordinate their own snow removal operation using their own department talk groups. All snow plow operators are equipped with radios capable of transmitting and receiving on a frequency of 800 MHZ. Each plow and equipment operator is assigned a unique call number and a list of all call numbers is displayed in each piece of equipment or truck. Each department will conduct internal operations on their designated Talk Group.

**13.2 Command**

**13.2.1 Key Leaders**

<b>Key Leaders</b>			
<b>Name</b>	<b>Position</b>	<b>Primary Contact</b>	<b>E-Mail</b>
Angel Taveras	Mayor		<a href="mailto:ataveras@providenceri.com">ataveras@providenceri.com</a>
Michael D’Amico	Chief of Staff		<a href="mailto:mdamico@providenceri.com">mdamico@providenceri.com</a>
Steven Pare	Public Safety Commissioner		<a href="mailto:spare@providenceri.com">spare@providenceri.com</a>
Hugh Clements	Police Chief		<a href="mailto:hclements@providenceri.com">hclements@providenceri.com</a>
Michael Dillon (Acting)	Fire Chief		<a href="mailto:mdillon@providenceri.com">mdillon@providenceri.com</a>
William Trinque	Director, Communications		<a href="mailto:wtrinque@providenceri.com">wtrinque@providenceri.com</a>
William Bombard (Acting)	Director, Public Works		<a href="mailto:pthomas@providenceri.com">pthomas@providenceri.com</a>
Robert McMahon	Superintendent, Parks		<a href="mailto:rmcmahon@providenceri.com">rmcmahon@providenceri.com</a>

	& Recreation		
Susan Lusi	Superintendent, Public Schools		<a href="mailto:Susan.Lusi@ppsd.org">Susan.Lusi@ppsd.org</a>
Alan Sepe	Director, Public Property		<a href="mailto:asepe@providenceri.com">asepe@providenceri.com</a>
Boyce Spinelli (Acting)	Director, Water Supply Board		
Pleshette Mitchell	Director, ONS		<a href="mailto:pmitchell@providenceri.com">pmitchell@providenceri.com</a>
Sybil Bailey	Director, Human Resources		<a href="mailto:sbailey@providenceri.com">sbailey@providenceri.com</a>
Peter Gaynor	Director, Emergency Management		<a href="mailto:pgaynor@providenceri.com">pgaynor@providenceri.com</a>

#### 14.0 **DEFINITIONS**

In an effort to avoid confusion, the following standardized terminology with activity definitions is established. When directed to do so, operators will perform winter maintenance tasks in accordance with these definitions.

##### **Cleanup**

Clean up and push back all roads. Clean-up intersections, turn-arounds, routes and cul-de-sacs. Some areas may require more than one pass.

##### **Collector**

Collector roadways differ from principal and minor arterials in that they collect traffic from local streets in residential neighborhoods and channel it to the arterial system. These roadways receive less volume in traffic than principal and minor arterials. Collectors are moderately traveled local roads, but are functionally separate and serve different purposes in channeling traffic volume than principal and minor arterials.

##### **Division (Supervisor)**

A Division is a unit arranged by geography, along jurisdictional lines if necessary, and not based on the makeup of the resources within the Division.

##### **Local**

Local roadways offer the lowest level of mobility and usually no bus route access. These roadways are the ones that primarily serve neighborhoods for residential access and local trips. On these roadways, through traffic movement is usually discouraged and weight limits or restrictions on large truck access are likely.

##### **Minor Arterial**

A minor arterial roadway is a roadway that services trips of moderate length and serves to augment the principal arterial system. These roadways carry less volume than principal arterials but should not penetrate identifiable neighborhoods.

**Open**

Just keeps the center of roads open; not spending a lot of time clearing routes, intersections or turn-arounds. This normally will be requested while snow is falling and there is a need to finish the drivers' routes in as short a time as possible. (One-inch per hour would result in three to four inches of snow at the beginning of routes before a truck gets back to it.) As snow gets deeper, the driver will need to make extra passes at routes/intersections to allow vehicle traffic to flow better. This is also aimed at intersections getting the whole route done in as short a time as possible.

**Priority Roads**

The general approach to categorizing snow plow routes through a two tiered system is to identify those traveled corridors that, for reasons of function or geography, are the most important for moving vehicular traffic through the City of Providence. General delineations are based on a rough parallel of those general descriptions provided for in the Federal Highway Administration's (FHWA) Functional Classification System Guidelines.

- **Tier 1 Roadways**

Roadways which, due to the nature and composition of travel it serves, are of fundamental importance to commerce, industry, public safety, and vehicular travel. These roadways must be cleared first during a snow event, as they are of systemic importance to the functioning of our urban roadway system. These roadways are primarily principal arterial and minor arterial roadways.

- **Tier 2 Roadways**

Roadways which serve to enhance the principal arterial system, and in most cases interconnect minor arterials with principal arterials. Tier 2 roadways serve slightly less volume than Tier 1 roadways but for reasons of topography or daily traffic flow are a top priority for snow plow routing.

**Principal Arterial**

A major arterial roadway is a system of streets and highways that serve the major centers of activity in the City of Providence. These roadways are the highest traffic volume corridors that also carry the major portion of trips entering and leaving the urban area. These roadways define the principal arterial system that carries much of the intra-urban as well as intercity bus routes.

**Push/Back**

After several large storms it may be necessary to send a truck or the grader out to shelf or back snow windrows. A loader will normally go along to clean up driveways and intersections.

**Sand Roads**

Roads will be spread with “straight” sand over the travel width of a gravel road. It may be necessary to spread in both directions to get a complete coverage.

**Sector**

A group of political wards arranged geographically.

**Slush Off**

Scrape off any snow/ice that has loosened up from treating with salt. Normally, it will require one pass each way unless advised to slush off and clean up.

**Task Force**

A temporary grouping of individuals and resources for the accomplishment of a specific objective (this term is slightly modified for this specific use).

**Treat Roads**

Roads will be spread with a mixture of sand and salt. The Highway Supervisor or his or her designee will determine the proportion of the sand/salt mixture. Mixture will be spread along the centerline of the roadway in a width of two to four feet.

**Treat Route**

Go over assigned route spreading a sand/salt mix on all roads, intersections and cul de sac in such a manner that one backtracks as little as possible.

**Treat Main**

Treat just the high traffic volume roads. Depending on conditions, driver’s drags may be requested to do side streets.

**Wintery Conditions**

Any winter condition that generally produces wind driven snow, freezing rain, road freeze, white-out or blizzard like conditions were City resources are required to ensure safe travel.

**14.1 Additional Definitions - Weather**

**Blizzard**

A blizzard means that the following conditions are expected to prevail for a period of 3 hours or longer:

- Sustained wind or frequent gusts to 35 miles an hour or greater; and
- Considerable falling and/or blowing snow (i.e., reducing visibility frequently to less than ¼ mile)

**Blowing Snow Advisory**

Issued when wind driven snow reduces surface visibility, possibly, hampering traveling. Blowing snow may be falling snow, or snow that has already accumulated but is picked up and blown by strong winds.

**Brisk Wind Advisory**

A Small Craft Advisory issued by the National Weather Service for ice-covered waters.

**Drifting Snow**

Drifting snow is an uneven distribution of snowfall/snow depth caused by strong surface winds. Drifting snow may occur during or after a snowfall. Drifting snow is usually associated with blowing snow.

**Flurries**

Snow flurries are an intermittent light snowfall of short duration (generally light snow showers) with no measurable accumulation (trace category).

**Freeze**

A freeze is when the surface air temperature is expected to be 32°F or below over a widespread area for a climatologically significant period of time. Use of the term is usually restricted to adverse situations or to occasions when wind or other conditions prevent frost. "Killing" may be used during the growing season when the temperature is expected to be low enough for a sufficient duration to kill all but the hardiest herbaceous crops.

**Freeze Warning**

Issued during the growing season when surface temperatures are expected to drop below freezing over a large area for an extended period of time, regardless whether or not frost develops.

**Freeze-up date**

In hydrologic terms, the date on which the water body was first observed to be completely frozen over.

**Freezing Drizzle**

A drizzle that falls as a liquid but freezes into glaze or rime upon contact with the cold ground or surface structures.

**Freezing Drizzle Advisory**

Issued when freezing rain or freezing drizzle is forecast but a significant accumulation is not expected. However, even small amounts of freezing rain or freezing drizzle may cause significant travel problems.

**Freezing Fog**

A suspension of numerous minute ice crystals in the air, or water droplets at temperatures below 0° Celsius, based at the Earth's surface, which reduces horizontal visibility; also called ice fog.

**Freezing Level**

The altitude at which the air temperature first drops below freezing.

**Freezing Rain**

Rain that falls as a liquid but freezes into glaze upon contact with the ground.

**Freezing Rain Advisory**

Issued when freezing rain or freezing drizzle is forecast but a significant accumulation is not expected. However, even small amounts of freezing rain or freezing drizzle may cause significant travel problems.

**Freezing Spray**

An accumulation of freezing water droplets on a vessel caused by some appropriate combination of cold water, wind, cold air temperature, and vessel movement.

**Freezing Spray Advisory**

An advisory that may be issued within the Offshore Waters Forecast, the Coastal Waters Forecast, the Near shore Marine Forecast, and the Open Lake Forecast (GLF). An accumulation of freezing water droplets on a vessel at a rate of less than 2 centimeters (cm) per hour caused by some appropriate combination of cold water, wind, cold air temperature, and vessel movement.

**Frost**

Frost describes the formation of thin ice crystals on the ground or other surfaces in the form of scales, needles, feathers, or fans. Frost develops under conditions similar to dew, except the temperatures of the Earth's surface and earthbound objects falls below 32°F. As with the term "freeze," this condition is primarily significant during the growing season. If a frost period is sufficiently severe to end the growing season or delay its beginning, it is commonly referred to as a "killing frost." Because frost is primarily an event that occurs as the result of radiational cooling, it frequently occurs with a thermometer level temperature in the mid-30s.

**Frost Advisory**

Issued during the growing season when widespread frost formation is expected over an extensive area. Surface temperatures are usually in the mid 30s Fahrenheit.

**Glaze**

Ice formed by freezing precipitation covering the ground or exposed objects

**Heavy Snow**

This generally means...

- snowfall accumulating to 4" or more in depth in 12 hours or less; or
- snowfall accumulating to 6" or more in depth in 24 hours or less

In forecasts, snowfall amounts are expressed as a range of values, e.g., "8 to 12 inches." However, in heavy snow situations where there is considerable uncertainty concerning the range of values, more appropriate phrases are used, such as "...up to 12 inches..." or alternatively "...8 inches or more..."

**Heavy Snow Warning**

Issued by the National Weather Service when snowfall of 6 inches (15 cm) or more in 12 hours or 8 inches (20 cm) or more in 24 hours is imminent or occurring. These criteria are specific for the Midwest and may vary regionally

**Ice Jam**

In hydrologic terms, a stationary accumulation that restricts or blocks stream flow.

**Ice Storm**

An ice storm is used to describe occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice pull down trees and utility lines resulting in loss of power and communication. These accumulations of ice make walking and driving extremely dangerous. Significant ice accumulations are usually accumulations of ¼" or greater.

**Ice Storm Warning**

This product is issued by the National Weather Service when freezing rain produces a significant and possibly damaging accumulation of ice. The criteria for this warning varies from state to state, but typically will be issued any time more than 1/4" of ice is expected to accumulate in an area.

**Nor'easter**

A strong low pressure system that affects the Mid Atlantic and New England States. It can form over land or over the coastal waters. These winter weather event are notorious for producing heavy snow, rain, and tremendous waves that crash onto Atlantic beaches, often causing beach erosion and structural damage. Wind gusts associated with these storms can exceed hurricane force in intensity. A nor'easter gets its name from the continuously strong northeasterly winds blowing in from the ocean ahead of the storm and over the coastal areas.

**Major Storm (City of Providence)**

A major storm is when the forecast predicts 4" or more of snow in a 24 hour period.

**Severe Icing**

The rate of ice accumulation on an aircraft is such that de-icing/anti-icing equipment fails to reduce or control the hazard. Immediate diversion is necessary.

**Sleet**

(PL) - Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Heavy sleet is a relatively rare event defined as an accumulation of ice pellets covering the ground to a depth of ½" or more.

**Sleet Warning**

Issued when accumulation of sleet in excess of 1/2" is expected; this is a relatively rare scenario. Usually issued as a winter storm warning for heavy sleet.

**Snow**

Precipitation in the form of ice crystals, mainly of intricately branched, hexagonal form and often agglomerated into snowflakes, formed directly from the freezing [deposition] of the water vapor in the air.

**Snow Advisory**

This product is issued by the National Weather Service when a low pressure system produces snow that may cause significant inconveniences but do not meet warning criteria and if caution is not exercised could lead to life threatening situations. The advisory criterion varies from area to area. If the forecaster feels that it is warranted, he or she can issued it for amounts less than the minimum criteria. For example, it may be issued for the first snow of the season or when snow has not fallen in long while.

**Snow Flurries**

Snow flurries are an intermittent light snowfall of short duration (generally light snow showers) with no measurable accumulation (trace category).

**Snow Shower**

A snow shower is a short duration of moderate snowfall. Some accumulation is possible.

**Snow Squall**

A snow squall is an intense, but limited duration, period of moderate to heavy snowfall, accompanied by strong, gusty surface winds and possibly lightning (generally moderate to heavy snow showers). Snow accumulation may be significant.

**Wind Chill**

Reference to the Wind Chill Factor; increased wind speeds accelerate heat loss from exposed skin, and the wind chill is a measure of this effect. No specific rules exist for determining when wind chill becomes dangerous. As a general rule, the threshold for potentially dangerous wind chill conditions is about -20°F.

**Wind Chill Advisory**

The National Weather Service issues this product when the wind chill could be life threatening if action is not taken. The criteria for this warning varies from state to state.

**Wind Chill Factor**

Increased wind speeds accelerate heat loss from exposed skin. No specific rules exist for determining when wind chill becomes dangerous. As a general rule, the threshold for potentially dangerous wind chill conditions is about -20°F.

**Wind Chill Warning**

The National Weather Service issues this product when the wind chill is life threatening. The criteria for this warning varies from state to state.

**Wind Gust**

Rapid fluctuations in the wind speed with a variation of 10 knots or more between peaks and lulls. The speed of the gust will be the maximum instantaneous wind speed.

**Wind Shear**

The rate at which wind velocity changes from point to point in a given direction (as, vertically). The shear can be speed shear (where speed changes between the two points, but not direction), direction shear (where direction changes between the two points, but not speed) or a combination of the two.

**Wind Speed**

The rate at which air is moving horizontally past a given point. It may be a 2-minute average speed (reported as wind speed) or an instantaneous speed (reported as a peak wind speed, wind gust, or squall).

**Winter Storm Warning**

This product is issued by the National Weather Service when a winter storm is producing or is forecast to produce heavy snow or significant ice accumulations. The criteria for this warning can vary from place to place.

**Winter Storm Watch**

This product is issued by the National Weather Service when there is a potential for heavy snow or significant ice accumulations, usually at least 24 to 36 hours in advance. The criteria for this watch can vary from place to place.

**Winter Weather Advisory**

This product is issued by the National Weather Service when a low pressure system produces a combination of winter weather (snow, freezing rain, sleet, etc.) that present a hazard, but does not meet warning criteria.

**15.0 REFERENCE**

- City of Providence Code of Ordinances
- City-wide Notification Policy
- Severe Weather City Coordination Guide
- PEMA Emergency Services Guide
- City of Providence 800MHz Radio Emergency Pocket Guide
- EMAP Standards - 4.6: Operational Planning and 4.7: Incident Management



**Annex B – Priority Roads Detail**

<b>Priority Roads – Tier I</b>				
<b>Road</b>	<b>From</b>	<b>To</b>	<b>Focus</b>	<b>TF</b>
Allens Ave	<b>State Plowed</b>			
Atwells Ave	Broadway	Manton Ave	Fire Station	
Narragansett Blvd	<b>State Plowed</b>		Fire Station	
Elmwood Ave	<b>State Plowed</b>		1 School	
Glenbridge Ave	Manton Ave	Hartford Ave		
Petteys Ave	Hartford Ave	Killingly St		
Reservoir Ave	Elmwood Ave	Cranston C/L	1 School, 1 Fire Station	
Manton Ave	Westminster St	Johnston T/L		
Douglas Ave	Orms St	N Providence T/L		
Hartford Ave	<b>State Plowed</b>			
Westminster St	<b>State Plowed</b>			
Olneyville Sq	<b>State Plowed</b>			
Smith St	<b>State Plowed</b>			
S Main St	Point St	Waterman St		
N Main St	Randall St	Pawtucket C/L	State	
N Main St	Waterman St	Randall St	1 Fire Station	
Charles St	Mill St	Randall St	<b>State Plowed</b>	
Charles St	Randall St	N Providence T/L		
Valley St	Broadway	Orms St		
Chalkstone Ave	Douglas Ave	Manton Ave	2 Hospitals, 1 School	
Broad St	Elmwood Ave	Service Road #7	State	
Broad St	Service Road #7	Weybosset St		
Broad St	Elmwood Ave	Cranston C/L	1 School, 1 Fire Station	
Weybosset St	Broad St	Memorial Blvd		
Mount Pleasant Ave	Atwells Ave	Smith St	2 Schools, 2 Fire Stations, RI College	
Prairie Ave	Point St	Broad St	1 School	
Memorial Blvd	Francis St	Dyer St		
Eddy St	Memorial Blvd	Broad St	Hospital Complex	
Dean St	Westminster St	Valley St		
Raymond St	Valley St	Chalkstone Ave		
Oakland Ave	Chalkstone Ave	Smith St		
Thurbers Ave	Allens Ave	Broad St	2 Schools	
W Exchange St	Sabin St	Dean St		
Fountain St	Service Road	Dorrance St		
Dorrance St	Fountain St	Dyer St		
Huntington Ave	Union Ave	Bucklin St		

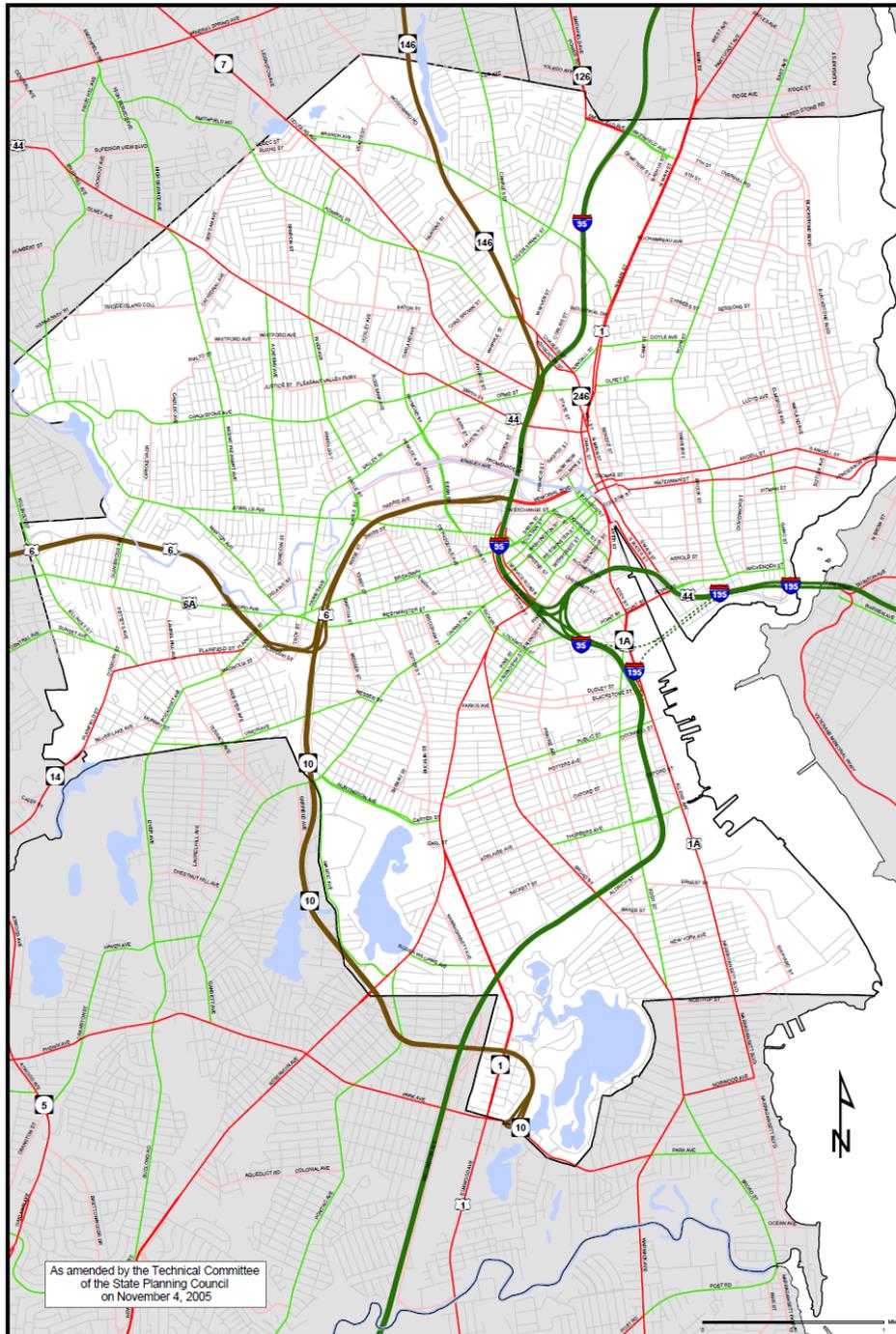
Carter St	Elmwood Ave	Bucklin St		
Dudley St	Eddy St	Prairie Ave		
Francis St	Sabin St	Smith St		
Messer St	Cranston St	Westminster St	1 Fire Station	
Pocasset Ave	Plainfield St	Cranston C/L		
Plainfield St	Hartford Ave	Johnston T/L		
Webster Ave	Plainfield St	Cranston C/L	1 School	
Broadway	La Salle Square	Westminster St		
Hope St	Geo. Cohan Blvd	Pawtucket C/L		
Waterman St	Memorial Blvd	Henderson Bridge	Brown University	
Angell St	River Drive	Memorial Blvd	Brown University	
Rochambeau Ave	N Main St	Blackstone Blvd	1 Fire Station	
Blackstone Blvd	Pitman St	Hope St		
4th St	N Main St	Hope St		
5th St	N Main St	Hope St		
<b>Priority Roads – Tier II</b>				
<b>Road</b>	<b>From</b>	<b>To</b>	<b>Focus</b>	<b>TF</b>
Kinsley Ave	Eagle St	Providence Place		
Promenade St	Hemlock St	Providence Place		
Oxford St	Eddy St	Allens Avenue		
Oakland Ave	Smith St	Eaton St		
Potters Ave	Cranston St	Eddy St	Bailey ES	
Empire St	Broadway	Weybossett St		
Union Ave	Plainfield St	Cranston St	2 Schools; Fire Station	
Dyer St	Eddy St	Memorial Blvd.		
State Hwy 10	<b>State Plowed</b>			
Russell St	(RIPTA)	(RIPTA)		
Niantic Ave	Cranston St	Reservoir Ave		
Mill St	N. Main St	Charles St		
Orms St	Valley St	Charles St		
Randall St	N. Main	Charles St		
Roger Williams Ave	Reservoir Ave	Route 1	Fire Station	
Ernest St	Eddy St	Service Rd		
Fruit Hill Ave	City Line	Manton Ave	Rhode Island College	
Academy Ave	Smith St	Atwells Ave		
River Ave	Smith St	Valley St		
Harris Ave	Atwells Ave	Providence Place		
Eagle St	Valley St	Harris Ave		
Admiral St	N Providence T/L	Charles Street	Fire Station	
Veazie St	Branch Ave	Douglas Ave		
Eaton St	Smith St	Douglas Ave		
Wickenden St	S. Main St	Gano St		
Brook St	Hope St	George Cohan Blvd.		

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Olney St	N. Main St	Arlington Ave	Hope High School	
Morris Ave	Rochambeau	Alumni Ave	Fire Station	
Butler Ave	Blackstone Blvd	Pitman St		
Public St	Elmwood Ave	Allens Ave		
Cranston St	Cranston C/L	Westminster St		
Killingly St	Hartford Ave	Plainfield St		
Gaspee St	Francis St	Smith St		
Smithfield Ave	Power Rd	N. Main St		
Silver Spring St	Branch Ave	Smithfield Ave		
Branch Ave	Douglas Ave	N. Main. St	Fire Station	
Hawkins St	Admiral St	Branch Ave		

### Annex C – Functional Classification (Map)

#### 2005 - 2015 Highway Functional Classification Providence



**Annex C – Functional Classification (Street List)**

**2005 - 2015 Functional Classification Mileage**

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<b>PROVIDENCE</b>	
1		BROAD ST		0.54
1		CANAL ST		0.03
1		ELMWOOD AVE		2.61
1		N MAIN ST		2.21
1		SERVICE ROAD 7		0.39
1		SERVICE ROAD 8		0.35
117		BROAD ST		2.16
126		SILVER SPRING ST		0.01
126		SMITHFIELD AVE		0.57
14		PLAINFIELD ST		1.31
1A		ALLENS AVE		1.63
1A		EDDY ST		0.13
1A		NARRAGANSETT BLVD		0.34
1A		POINT ST		0.33
1A		POINT STREET BRG		0.02
2		RESERVOIR AVE		0.93
246		ASHBURTON ST		0.34
246		CHARLES ST		0.78
246		MILL ST		0.11
44		CANAL ST		0.30
44		MEMORIAL BLVD		0.22
44		N MAIN ST		0.33
44		S MAIN ST		0.50
44		S WATER ST		0.36
44		SMITH ST		2.67
7		DOUGLAS AVE		2.12
			<b>Sum</b>	<b>26.42</b>
		<b>MINOR ARTERIAL (URBAN)</b>		
		ACADEMY AVE		1.22
		ADMIRAL ST		1.91
		ATWELLS AVE		2.02

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2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<i>PROVIDENCE</i>	
		BRANCH AVE		2.09
		BROAD ST		0.18
		BROADWAY		1.17
		CARTER ST		0.14
		CHALKSTONE AVE		2.51
		CRANSTON ST		1.40
		DEAN ST		1.19
		DORRANCE ST		0.41
		DOYLE AVE		0.47
		DYER AVE		0.00
		EAGLE ST		0.30
		EDDY ST		1.91
		EMPIRE ST		0.23
		EXCHANGE ST		0.26
		EXCHANGE TER		0.24
		FOUNTAIN ST		0.24
		FRANCIS ST		0.03
		FRICKER ST		0.15
		FRIENDSHIP ST		0.37
		FRUIT HILL AVE		0.38
		GANO ST		0.75
		GLENBRIDGE AVE		0.51
		HARRIS AVE		0.58
		HARTFORD AVE		0.24
		HOPE ST		2.74
		HUNTINGTON AVE		1.16
		KENNEDY PLZ		0.19
		LOCKWOOD ST		0.33
		MANTON AVE		1.99
		MATHEWSON ST		0.23
		MESSER ST		0.09
		MOUNT PLEASANT AVE		1.64
		NIANTIC AVE		1.27
		OAKLAND AVE		0.14

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2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<b>PROVIDENCE</b>	
		OLNEY ST		0.43
		OLNEYVILLE SQ		0.04
		ORMS ST		0.57
		PINE ST		0.30
		PLAINFIELD ST		0.18
		POCASSET AVE		0.79
		POINT ST		0.58
		PONTIAC AVE		0.17
		PUBLIC ST		1.23
		RANDALL ST		0.22
		RAYMOND ST		0.27
		RIVER AVE		1.83
		ROGER WILLIAMS AVE		0.46
		SILVER SPRING ST		0.94
		SUNSET AVE		0.25
		THURBERS AVE		0.89
		UNION AVE		1.00
		VALLEY ST		1.44
		WASHINGTON ST		0.66
		WESTMINSTER ST		1.82
		WEYBOSSET ST		0.41
		WICKENDEN ST		0.73
		WOONASQUATUCKET AVE		0.19
1		BROADWAY		0.42
1		EXCHANGE TER		0.03
1		FOUNTAIN ST		0.17
1		FRANCIS ST		0.00
1		SABIN ST		0.17
126		NASHUA ST		0.03
126		SMITHFIELD AVE		0.59
128		KILLINGLY ST		1.07
14		PLAINFIELD ST		0.12

2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
<b>PROVIDENCE</b>		<b>PROVIDENCE</b>		
246		CHARLES ST		1.29
44		STEEPLE ST		0.06
6A		HARTFORD AVE		1.15
7		ORMS ST		0.24
				<b>Sum</b>
				<b>51.42</b>
-----		<b>UNCLASSIFIED</b>	-----	
		5TH ST		0.40
		7TH ST		0.28
		ACORN ST		0.18
		ADELAIDE AVE		0.59
		ALDRICH ST		0.27
		ALFRED STONE RD		0.12
		AMERICAN EXPRESS PLZ		0.14
		ARNOLD ST		0.19
		AUDREY ST		0.09
		BAKER ST		0.21
		BARTON ST		0.15
		BATH ST		0.30
		BENEFIT ST		1.21
		BLACKSTONE BLVD		3.39
		BLACKSTONE ST		0.85
		BOWDOIN ST		0.29
		BRIDGHAM ST		0.51
		BROOK ST		0.85
		BUCKLIN ST		0.77
		BURNS ST		0.32
		BUTLER AVE		0.51
		CAHIR ST		0.16
		CALVERLY ST		0.27
		CAMP ST		0.80
		CANDACE ST		0.28
		CATHEDRAL AVE		0.28
		CEMETERY ST		0.15

2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<i>PROVIDENCE</i>	
		CHAD BROWN ST		0.30
		CHESTNUT ST		0.43
		CLAVERICK ST		0.08
		COLLEGE ST		0.06
		CORLISS ST		0.48
		CYPRESS ST		0.56
		DE PASQUALE AVE		0.22
		DEAN ST		0.42
		DELAINE ST		0.26
		DEXTER ST		0.95
		DUDLEY ST		0.69
		DUXBURY ST		0.12
		EAGLE ST		0.09
		EARL ST		0.07
		EATON ST		1.10
		EDDY ST		0.08
		ELMGROVE AVE		1.59
		ERNEST ST		0.56
		EXCHANGE ST		0.04
		FRANCIS ST		0.21
		FRIENDSHIP ST		0.47
		FROST ST		0.12
		GALILEO AVE		0.34
		GENTIAN AVE		0.59
		GOVERNOR ST		0.44
		GREENE ST		0.23
		GREENMAN LN		0.06
		HARBOURSIDE BLVD		0.16
		HAROLD ST		0.39
		HARRIS AVE		0.88
		HAWKINS ST		0.60
		HEMLOCK ST		0.16
		HOLDEN ST		0.29

2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<b>PROVIDENCE</b>	
		HOME AVE		0.02
		HUXLEY AVE		0.60
		INDUSTRIAL DR		0.19
		JUSTICE ST		0.07
		KINSLEY AVE		0.99
		KNIGHT ST		0.58
		LAUREL HILL AVE		0.85
		LEO AVE		0.11
		LLOYD AVE		0.82
		LUBEC ST		0.26
		MAGNOLIA ST		0.29
		MESSER ST		0.40
		MORRIS AVE		0.02
		MURRAY ST		0.08
		NARRAGANSETT AVE		0.56
		NASHUA ST		0.00
		NEW YORK AVE		0.34
		OAKLAND AVE		0.34
		OCONNELL ST		0.21
		ORTOLEVA DR		0.45
		OVERHILL RD		0.10
		OXFORD ST		0.71
		PARK ROW		0.07
		PARK ROW E		0.05
		PARK ROW W		0.04
		PARK RW		0.06
		PARK ST		0.51
		PARKIS AVE		0.19
		PETTEYS AVE		0.39
		PILSUDSKI ST		0.21
		PINE ST		0.85
		PITMAN ST		0.41
		PLEASANT VALLEY PKWY		0.88
		POTTERS AVE		1.70

2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<i>PROVIDENCE</i>	
		PRAIRIE AVE		1.45
		PROMENADE ST		0.59
		RHODE ISLAND COLL		0.73
		RIALTO ST		0.10
		RICHMOND ST		0.49
		RIDGE ST		0.19
		ROCHAMBEAU AVE		0.95
		ROSEBANK AVE		0.17
		SACKETT ST		0.62
		SESSIONS ST		0.25
		SHARON ST		0.52
		SHERRY ST		0.09
		SHIPYARD ST		0.59
		SILVER LAKE AVE		0.40
		STANDISH AVE		0.08
		STATE ST		0.24
		STEWART ST		0.22
		STILLMAN ST		0.08
		SWISS ST		0.13
		TERRACE AVE		0.30
		THAYER ST		0.87
		TOBEY ST		0.11
		TROY ST		0.19
		UNION ST		0.08
		VEAZIE ST		0.60
		W EXCHANGE ST		0.20
		W RIVER ST		0.55
		WAYLAND AVE		0.54
		WEBSTER AVE		0.55
		WELLINGTON AVE		0.01
		WHIPPLE ST		0.29
		WHITFORD AVE		0.69
		WOODWARD RD		0.70

2005 - 2015 Functional Classification Mileage

Route	Municipality	Segment Name	COUNTY	MILES
	<b>PROVIDENCE</b>		<i>PROVIDENCE</i>	
		WYNDHAM AVE		0.01
1		FRANCIS ST		0.37
1		GASPEE ST		0.24
126		NASHUA ST		0.14
14		PLAINFIELD ST		0.00
			Sum	54.28
	<b>Town Total</b>			<b>146.62</b>

**Annex D – City Snow Ordinances****Sec. 23-12. Throwing or sweeping dirt, sand on sidewalks.**

- No person shall place, throw or deposit, or cause to be placed, thrown or deposited, any dirt or sweepings upon any sidewalk or in the gutters in the city, and no person shall sweep, or cause to be swept, any sidewalk in the city between the hours of 10:00 a.m. and 6:00 p.m. Nothing in this section contained shall be construed as forbidding the placing of sand or other proper substances on sidewalks encumbered by ice, or the removing of snow from sidewalks at any time. (Ord. 1944, ch. 1281, § 1; Rev. Ords. 1946, ch. 33, § 33)
- Cross references: Garbage, trash and refuse generally, § 12-46 et seq.

**Sec. 23-13. Removal of snow--Required.**

- All owners, occupants or persons having care of any building or lot bordering upon any street, highway or public place within the city, shall within the first four (4) hours of daylight after the end of any snowfall, or the fall or deposit of snow on the sidewalk of said building or lot from any cause whatsoever:
- (a) Remove or cause to be removed all snow from a path not less than three (3) feet in width of the entire border in or on said street, highway, or public place;
- (b) Remove or cause to be removed all snow from around any fire hydrant on the sidewalk in front of said building or lot;
- (c) Remove or cause to be removed all snow from the opening of any catch basin in the sidewalk of said building or lot;
- (d) Remove or cause to be removed all snow from pedestrian-access ramps cut into street curbs bordering said building or lot;
- Any person found guilty of violating this section shall be fined not less than twenty-five dollars (\$25.00) nor more than three hundred dollars (\$300.00). The enforcement of the above shall be done by the city police department. (Ord. 1914, ch. 30, § 24; Rev. Ords. 1946, ch. 33, § 38; Ord. 1961, ch. 1422, § 1; Ord. 1994, 94-56, § 1, 12-27-94; Ord. 2003, ch. 03-37, 6-16-03)
- **Cross references:** Removal of snow and ice by railroad, § 19-22.
- **State law references:** Power of council to regulate removal of snow and ice from sidewalks, § 24-7-1, Gen. Laws 1956.

**Sec. 23-14. Same--Deposit restricted.**

- Snow removed as provided in section 23-13 or from any lot shall not be thrown or deposited on any portion of a street, highway or public place which has theretofore been plowed or cleared of snow, provided that the director of public works may whenever public convenience or necessity, or physical conditions so require or extreme hardship may result, modify the provisions hereof.
- (Ord. 1914, ch. 30, § 24; Rev. Ords. 1946, ch. 33, § 38; Ord. 1961, ch. 1422, § 2)
- **State law references:** Power of council to regulate removal of snow and ice from sidewalks, § 24-7-1, Gen. Laws 1956.

**Sec. 23-15. Depositing snow on highway.**

- No owner, lessee or occupant of any premises, or any person cleaning or removing snow therefrom, shall deposit or cause to be deposited any snow from said premises upon any highway except with the permission of the director of public works. (Ch. 33, § 49, added by Ord. 1958, ch. 1183, § 1)

**Sec. 23-16. Removal of ice from sidewalks, required.**

- Whenever the sidewalk or any part thereof adjoining any building or lot of land on any street shall be encumbered with ice, it shall be the duty of the owner, occupant or any person having the care of such building or lot, to cause such sidewalk to be made safe and convenient by removing the ice therefrom, or by covering the same with sand or some other suitable substance. (Ord. 1914, ch. 30, § 25; Rev. Ords. 1946, ch. 33, § 39)
- **State law references:** Power of council to regulate removal of snow and ice from sidewalks, § 24-7-1, Gen. Laws, 1956.

**Sec. 23-17. Removal of snow and ice on sidewalks adjoining city property.**

- (a) Sidewalks adjoining property belonging to or occupied by the city shall be cleared of snow under the direction of the department, committee or officer of the city having by ordinance or statute the care, custody or use of such property. Whenever the sidewalk or any part thereof adjoining any property belonging to or occupied by the city shall be encumbered with ice, the department, committee or officer of the city having by ordinance or statute the care, custody or use of such property, shall cause such sidewalk to be made safe and convenient by removing the ice therefrom or by covering the same with sand or some other suitable substance.
- (b) The expense of any such work shall be paid from the appropriation for the support of such department. In case any such department, committee or officer

has no janitors or employees available to do said work, the superintendent of public buildings may, upon request of such department, committee or officer, cause said work to be done, the expense thereof to be charged to the appropriation for such department, committee or officer. (Ord. 1914, ch. 47, § 8; Rev. Ords. 1946, ch. 33, § 40)

Emergency Operations Center (EOC) Weather Forecast Template	
Weather Topic	Data
<b>Synopsis</b>	
<b>Weather Warnings</b> Watches Warnings Advisories	
<b>Commuting Concerns</b> AM / PM Schools Downtown	
<b>Winds</b> Direction Speed Wind Chill	
<b>Visibility</b> Blowing Snow Blizzard Conditions Fog	
<b>Precipitation</b> Snow Ice Frozen Rain	
<b>Temperature</b> Air Road	
<b>Cloud Cover</b>	
<b>River / Streams</b> Flooding Damming	
<b>Coastal Flooding</b> Locations	
<b>Tides</b> High Low Astronomical	
<b>Sun / Moon</b> Rise Set	
<b>Illumination</b> Percentage Timing	
<b>Next 12 / 24 Hours</b>	
<b>Next Update</b>	

## End ##