Local Law Filing

NEW YORK STATE DEPARTMENT OF STATE
162 WASHINGTON AVENUE, ALBANY, NY 12231

(Use this form to file a local law with the Secretary of State.)

Text of law should be given as amended. Do not include matter being eliminated and do not use italics or underlining to indicate new matter.

~~County~~
~~City~~
Town ~~Village~~ of Enfield

Local Law No. 1 of the year 19 97

A local law Rural Roads Classification
(Insert Title)

Be it enacted by the Town Board of the
(Name of Legislative Body)

~~County~~
~~City~~
Town ~~Village~~ of Enfield as follows:

SEE ATTACHED

(If additional space is needed, attach pages the same size as this sheet, and number each.)

(Complete the certification in the paragraph that applies to the filing of this local law and strike out that which is not applicable.)

1. **(Final adoption by local legislative body only.)**

I hereby certify that the local law annexed hereto, designated as local law No. 1 of 19 97 of the (~~County~~)(~~City~~)(Town)(~~Village~~) of Enfield was duly passed by the Town Board on 9-3- 19 97, in accordance with the applicable provisions of law.
(Name of Legislative Body)

2. **(Passage by local legislative body with approval, no disapproval or repassage after disapproval by the Elective Chief Executive Officer*.)**

I hereby certify that the local law annexed hereto, designated as local law No. _____ of 19___ of the (County)(City)(Town)(Village) of _____ was duly passed by the _____ on _____ 19___, and was (approved)(not disapproved)(repassed after disapproval) by the _____ and was deemed duly adopted on _____ 19___, in accordance with the applicable provisions of law.
(Name of Legislative Body) (Elective Chief Executive Officer*)

3. **(Final adoption by referendum.)**

I hereby certify that the local law annexed hereto, designated as local law No. _____ of 19___ of the (County)(City)(Town)(Village) of _____ was duly passed by the _____ on _____ 19___, and was (approved)(not disapproved)(repassed after disapproval) by the _____ on _____ 19___. Such local law was submitted to the people by reason of a (mandatory)(permissive) referendum, and received the affirmative vote of a majority of the qualified electors voting thereon at the (general)(special)(annual) election held on _____ 19___, in accordance with the applicable provisions of law.
(Name of Legislative Body) (Elective Chief Executive Officer*)

4. **(Subject to permissive referendum and final adoption because no valid petition was filed requesting referndum.)**

I hereby certify that the local law annexed hereto, designated as local law No. _____ of 19___ of the (County)(City)(Town)(Village) of _____ was duly passed by the _____ on _____ 19___, and was (approved)(not disapproved)(repassed after disapproval) by the _____ on _____ 19___. Such local law was subject to permissive referendum and no valid petition requesting such referendum was filed as of _____ 19___, in accordance with the applicable provisions of law.
(Name of Legislative Body) (Elective Chief Executive Officer*)

*Elective Chief Executive Officer means or includes the chief executive officer of a county elected on a county-wide basis or, if there be none, the chairman of the county legislative body, the mayor of a city or village, or the supervisor of a town where such officer is vested with the power to approve or veto local laws or ordinances.

5. (City local law concerning Charter revision proposed by petition.)

I hereby certify that the local law annexed hereto, designated as local law No. _____ of 19___ of the City of _____ having been submitted to referendum pursuant to the provisions of section (36)(37) of the Municipal Home Rule Law, and having received the affirmative vote of a majority of the qualified electors of such city voting thereon at the (special)(general) election held on _____ 19___, became operative.

6. (County local law concerning adoption of Charter.)

I hereby certify that the local law annexed hereto, designated as local law No. _____ of 19___ of the County of _____, State of New York, having been submitted to the electors at the General Election of November _____ 19___, pursuant to subdivisions 5 and 7 of section 33 of the Municipal Home Rule Law, and having received the affirmative vote of a majority of the qualified electors of the cities of said county as a unit and of a majority of the qualified electors of the towns of said county considered as a unit voting at said general election, became operative.

(If any other authorized form of final adoption has been followed, please provide an appropriate certification.)

I further certify that I have compared the preceding local law with the original on file in this office and that the same is a correct transcript therefrom and of the whole of such original local law, and was finally adopted in the manner indicated in paragraph 1, above.

Alice Lowe Town Clerk
Clerk of the County legislative body, City, Town or Village Clerk
or officer designated by local legilsative body

(Seal)

Date: September 10, 1997

(Certification to be executed by County Attorney, Corporation Counsel, Town Attorney, Village Attorney or other authorized Attorney of locality.)

STATE OF NEW YORK
COUNTY OF Tompkins

I, the undersigned, hereby certify that the foregoing local law contains the correct text and that all proper proceedings have been had or taken for the enactment of the local law annexed hereto.

Robert C Mahoney
Signature

Town Attorney
Title

~~County~~
~~City~~
Town of Enfield
~~Village~~

Date: September 11, 1997

Rural Road Classification
Town of Enfield
Local Law 1, 1997

SECTION 1 - LEGISLATIVE PURPOSE

Town of Enfield hereby enacts this local law for the purpose of reducing the cost of maintaining and rehabilitating low volume rural town roads while providing that such roads when used in a manner consistent with the road classification will be safe for the users thereof. While there are generally accepted standards for the design, maintenance and rehabilitation of high volume roads, there are no such comparable standards for roads located in rural areas over which a relatively low volume of traffic passes. In the event there can be a savings in the cost of maintaining or rehabilitating a road that has relatively few vehicles traveling over it, the money saved could be spent on more intense maintenance of roads over which travel is greater. The result could be greater overall safety for the general public. Since the town resources to be expended for highways is limited, it is incumbent upon the town to utilize such limited resources in a manner which targets expenditures on the most heavily traveled roads. It is for such purposes that this local law is enacted.

SECTION 2 - LEGISLATIVE FINDINGS

In 1986 the New York State Legislature created the Local Road Classification Task Force (Chapter 708 of the Laws of 1986). Such task force was charged with developing alternative guidelines for classifying town and county roads in rural areas according to principal uses and traffic volume. The task force consisted of the Commissioner of Transportation or his designee, the Dean of the College of Agriculture and Life Sciences of Cornell University or his designee, four rural town highway superintendents, three rural county highway superintendents and three rural business people. Such task force after considerable discussions and upon hearing many experts prepared local road classification guidelines and issued a report in December of 1988. In December of 1989 the task force issued *A Manual: Guidelines For Rural Town and County Roads* to facilitate the use of the local classification by local officials. In July of 1990, the Legislative Commission on Rural Resources worked with the Senate, Assembly, State Department of Transportation and the Governors office to establish a New York State Local Roads Research and Coordination Council (see Article 16-B Executive Law and Chapters 565 and 652 of the laws of 1990). The Council was empowered to work with the Department of Transportation to:

1. Promote the training of municipal officials and employees to encourage the utilization of innovative and cost cutting procedures as well as more efficient highway maintenance and consolidation methods;

2. Encourage the coordination of local road maintenance and storage facilities;

3. Encourage towns and counties to contract with each other for the maintenance of local roads and bridges;

4. Develop a minimum maintenance road classification addressing repair and service standards for low volume rural roads, as well as procedures to be followed by local governments for designing minimum maintenance roads within their communities. Accordingly, the Council revised the 1989 Local Roads Classification Task Force Report and published it for use by rural towns and county governments December 30, 1992. A rural town is defined as a town with a population density not exceeding 150 persons per square mile.

SECTION 3 - CLASSIFICATION OF HIGHWAYS

The Town Superintendent of Highways, in the event he (or she) finds it to be in the best interests of the town, may classify one or more roads or portions thereof as one of the following types of roads: low volume collector; residential access; farm access; re-source/industrial access, agricultural land access; recreational land access or minimum maintenance road. However, no road shall be finally determined to be a minimum main-tenance road until so designated by the Town Board by local law. The classification of any road or designated portion thereof shall be consistent with the definitions of such type of road as set forth in section ten of this local law. Upon the classification of any road or portion thereof by the Town Superintendent of Highways such designation shall be filed in the office of the Town Clerk and a copy shall be presented to each member of the Town Board by the Town Clerk within 10 days of such filing. Such designation shall be accompanied by a finding by the Town Superintendent of Highways which shall con-tain the information upon which the superintendent relied when designating such road or portion thereof. The Town Board may at a town board meeting following the filing of such designation adopt a resolution accepting such designation except that the desig-nation of a minimum maintenance road shall be by local law as provided in section four of this local law. Upon the adoption of such resolution, the road or portion thereof shall be classified as determined by the Town Superintendent of Highways and such Town Superintendent of Highways shall take into consideration the guidelines for maintaining such road or portion thereof as set forth in section ten of this local law.

SECTION 4 - MINIMUM MAINTENANCE DESIGNATION

Notwithstanding the provisions of section three of this local law no road or portion thereof shall be designated as a minimum maintenance road except after following the procedure set forth in sections four through six, inclusive.

1. The Town Superintendent of Highways of shall submit to the Town Board a recommendation that a road or portion thereof should be designated as a minimum maintenance road. No road or portion thereof shall be recommended as a minimum maintenance road by the Town Superintendent of Highways unless the traffic volume is less than 50 vehicles per day as determined by the Town Superintendent of Highways and such road or portion thereof is an agri-cultural land access road or a recreational land access road, and that such road or portion thereof does not provide farm centers of operation and/or year-round residences with principal motor vehicle access to goods and services necessary for the effective support of such farms and/or year-round resi-dences.

2. The Town upon the approval of such recommendation shall by local law desig-nate such road or portion thereof as a minimum maintenance road.

3. At least ten days before the public hearing on such local law, written notice of such hearing shall be served by certified mail upon every owner of real prop-erty, as determined by the latest completed assessment roll, abutting such road or portion thereof to be designated a minimum maintenance road.

4. No local law designating a minimum maintenance road shall be effective until signs pursuant to sections six and eleven of this local law are first posted ad-vising the public that such road is a minimum maintenance road.

5. Prior to any public hearing relating to the adoption of a local law designating a low volume rural road or portion thereof as a minimum maintenance road, the Town Board shall issue findings that such road or portion thereof should be designated a minimum maintenance road. Such findings shall include but not be limited to:

   - ☐ the volume and type of motor vehicle traffic on such road,
   - ☐ a determination that the property owners of land abutting the road shall continue to have reasonable access to their property,
   - ☐ a determination that the users of the road or portion thereof traveling at a reasonable and prudent speed, under the circumstances, shall not be placed in a hazardous situation,
   - ☐ a determination that such road, or portion thereof, does not constitute a farm access as defined pursuant to section ten of this local law, and
   - ☐ a determination that such road, or portion thereof, does not constitute access to a year-round residence.

   Such findings shall be on file in the office of the Town Clerk and be available for public inspection for at least 60 days before the public hearing on the local law.

SECTION 5 - SCHOOL BOARD REVIEW

A copy of the findings in section four shall also be sent to the Board of Education of the School District in which each road or road segment is located. Such School Board shall review the findings and within forty-five days file with the Town Clerk a resolution recommending such road designation or, in the event such designation is not recommended, the School Board shall set forth in a resolution the reasons for not recommending such designation. The Town Board may, by resolution, accept, accept in part or reject the recommendations of the School Board prior to any vote upon the proposed local law. In the event the School Board takes no action upon the findings issued by the Town Board, the Town Board shall consider such inaction as a recommendation for the proposed minimum maintenance designation.

SECTION 6 - POSTING OF SIGNS

Appropriate signs shall be placed on a minimum maintenance road. Such signs shall notify and advise motorists of the need to exercise caution when traveling such road and shall conform to the manual of uniform traffic control devices. Properly posted signs shall be prima facie evidence that adequate notice of a minimum maintenance road designation has been given to the public.

SECTION 7 - MINIMUM MAINTENANCE PRACTICES

Minimum maintenance roads shall be maintained in a manner determined by the Town Superintendent of Highways to be consistent with the volume and type of traffic traveling on such road subject to the funds for such maintenance being made available by the Town Board. Normal road maintenance practices such as, but not limited to paving, patching, blading, dragging or mowing may be done less frequently depending upon the existing condition and use of the road as shall be determined by the Town Superintendent of Highways. The guidelines for the method and manner of maintaining a minimum maintenance road are set forth in section ten of this local law.

SECTION 8 - DISCONTINUANCE OF MINIMUM MAINTENANCE DESIGNATION

Any person or persons owning or occupying real property abutting a road or portion thereof which has been designated a minimum maintenance road may petition the Town Board to discontinue the designation of such road or portion thereof as a minimum maintenance road. Such petition shall be filed with the Town Clerk. Such petition shall identify the road or portion thereof to be discontinued as a minimum maintenance road and set forth the reasons for such discontinuance. The Town Board shall hold a public hearing upon such petition within thirty days after its receipt; at least ten days public notice shall be given prior to the conduct of such public hearing. At least ten days before the public hearing on such petition, written notice of such public hearing shall be served by certified mail upon every owner of real property, as determined by the latest assessment roll abutting such road or portion thereof. In the event the Town Board after such public hearing determines that such road or portion thereof shall continue as a minimum maintenance road, no petition may be submitted pursuant to this section until the lapse of at least two years from the date of the filing of the petition. In the event it is determined that such road shall be discontinued as a minimum maintenance road, the Town Board, by local law shall discontinue such road or portion thereof as a minimum maintenance road and such discontinuance shall take place six months after the commencement of the next succeeding fiscal year.

SECTION 9 - DISCONTINUANCE IN THE PUBLIC INTEREST

Notwithstanding the provisions of section eight of this local law, the Town Board may adopt a local law discontinuing such minimum maintenance road designation in the event it determines such discontinuance to be in the public interest.

SECTION 10 - GUIDELINES FOR CLASSIFICATION, DESIGN, MAINTENANCE, AND OPERATION

The following tables and accompanying data shall be used as guides by the Town Superintendent of Highways to classify low volume roads in Enfield and shall be used to enable the Town Superintendent of Highways to determine the guidelines he may follow to enable him to determine the manner in which low volume rural roads may be designed, maintained and operated.

Classification for Low Volume Rural Roads and Guidelines for Design, Maintenance and Operation

The following classifications have been developed to establish a close relationship between the uses of low volume rural roads and their design, maintenance and operation and are hereby adopted by Enfield. The classifications identify the significant use characteristics, including traffic volumes, vehicle types and seasonal use characteristics, that are present on New York State's low volume, rural roads. Guidelines for the design, maintenance and traffic control have been developed that are closely matched to these use characteristics. Such guidelines shall be used by the Town Superintendent of Highways.

Land use adjacent to the road shall be the basis for classification because it is a convenient and accurate way of identifying the kind of use that a low volume rural road serves.

A low volume rural road is a road with zero to 400 vehicles per day.

Low Volume Rural Road Classifications in the Town of

- ☐ **Low Volume Collector**--collects traffic from any of the other classifications and channels it to higher level roads, such as arterials and interstates.

- ☐ **Residential Access**--provides access to residences. The traffic volume generated depends on the number of residences. All year access for fire trucks, ambulances and school buses should be provided.

- ☐ **Farm Access**--provides access to a farm's center of operations including the residence. Traffic volume is generally low, but may include occasional heavy trucks and farm equipment.

- ☐ **Resource/Industrial Access**--provides access to industrial or mining operations. Traffic volume can vary and can include heavy trucks and significant numbers of employees' cars.

- ☐ **Agricultural Land Access**--provides access to farm land. Traffic volumes are low and vary seasonally. These roads should accommodate farm equipment that can be up to 20 feet wide.

- ☐ **Recreation Land Access**--provides access to recreational land including seasonal dwellings and parks. Volumes of traffic can vary with the type of recreation facility and season of the year, and may include recreational vehicles.

- ☐ **Minimum Maintenance Road**--a low-volume rural road or road segment which may be of a seasonal nature, having an average traffic volume of less than fifty vehicles per day which principally or exclusively provides agricultural or recreational land access. A road, or road segment, which has been so designated may be maintained at a level which allows such road to remain passable and functional in accordance with standards contained in this section of the

Guidelines. In no way shall the term minimum maintenance be construed to mean "no maintenance" or "abandonment". Further, such term shall not apply to those roads, or road segments, which provide farm access as previously defined, or access to an individual year-round residence at the time designation as a minimum maintenance road is being considered.

The guidelines for rehabilitation design shall include three rehabilitation design types. Rehabilitation Design Type A is an all purpose road on which vehicles can pass without a reduction in speed. Rehabilitation Design Type B is an area service, two lane road on which vehicles may have to reduce their speeds to pass. Rehabilitation Design Type C is an area service, one lane road on which either of two passing vehicles must slow, stop or briefly leave the roadway to allow the other to pass.

Vehicle interaction characteristics shall be considered by the Town Superintendent of Highways as the basis for assigning the design types to the respective classifications. Vehicle size (as determined by the absence or presence of significant truck traffic) and traffic volumes (of either greater or equal to 50 vehicles per day, or less than 50 vehicles per day) are the criteria used. The 50 vehicle per day threshold is used because, at fewer than 50 vehicles per day, vehicle interactions become so infrequent that the effect on vehicle operation is negligible.

The guidelines to be followed by the Town Superintendent of Highways for maintenance shall include provisions for a minimum maintenance designation that allows a reduced level of maintenance on roads which are used for agricultural or recreational land access.

The guidelines for traffic control parallel the maintenance guidelines. They may include recommendations for signs on normally maintained roads and a minimum maintenance road sign shall be posted at the entrance points to minimum maintenance roads. The only other signs recommended for minimum maintenance roads are those mandated by law (for all roads).

TABLE 1

RURAL LOW VOLUME ROAD CLASSIFICATION

ROAD USE			GUIDELINES		
Road Classification	***Vehicle Type***	***ADT*** (1)	***Rehabilitation Design Type***	***Maintenance***	***Traffic Control***
Low Volume Collector	All vehicles	50-400 <50	A	Normal	MUTCD (2)
Residential Access	Cars, emergency and service vehicles	50-400 <50	B C	Normal Normal	MUTCD MUTCD
Farm Access	Cars, light trucks, occassional heavy trucks, farm equipment	250-400 <250	A B	Normal Normal	MUTCD MUTCD
Resource/Industrial Access	Trucking, employee cars	50-400 <50	A B	Normal Normal	MUTCD MUTCD
Agricultural Land Access	Occasional farm equipment seasonal	---	C	Min. Maint.	MUTCD
Recreational Land Access	Cars, RV's seasonal	50-400 <50	B C	Normal Min. Maint.	MUTCD MUTCD

Note:

(1) ADT - Average Daily Traffic
(2) MUTCD - *"Manual of Uniform Traffic Control Devices"* supplemented by *"Traffic Sign Handbook for Low Volume Roads"* - New York State Department of Transportation Traffic and Safety Division, June 1985

TABLE 2

DESIGN GUIDELINES FOR ROAD REHABILITATION BY ROAD TYPE

Type A All Purpose Road		Type B Area Service 2-Way 2 Lane Road	Type C Area Service Single Lane 2-Way Road
Minimum Width Traveled Way	18 feet (1)	16 feet (1)	10 feet (2)
Shoulder	2 feet	2 feet	---
Opposing Vehicle Interactions	All vehicles pass with no speed reductions.	1. Trucks cannot meet without reducing speed. 2. Cars cannot meet trucks without reducing speed. 3. Cars pass with almost normal speed.	All vehicles require special widening for passing.
Operating Speed (3)	45 mph or greater	25 mph to 45 mph	40 mph or less
Typical Surface Material (4)	Asphaltic Concrete ADT >150 Aggregate ADT <150	Asphaltic Concrete ADT >150 Aggregate ADT <150	Usually unsurfaced
Surface Condition	No adverse effect on operating speed	May cause reduction in operating speed	Reduced operating speed

Note:

(1) Add 2 ft. to the traveled way if significant truck traffic is present.
(2) If farm vehicles are present, maintain 20 foot horizontal clearance. Widening of traveled way should be provided at approximately 1000 foot intervals to allow vehicles to pass.
(3) Applicable to normal maintenance roads.
(4) ADT thresholds recommended based on economic analysis, *"Economic Evaluation of Pavement Design for Low Volume Roads"*, Proceedings of the Third International Low Volume Road Conference 1983, Cornell University.

TABLE 3

CROSS SLOPE DRAINAGE CRITERIA, BY SURFACE TYPE

Surface Type	Range in Cross Slope
High (asphalt, etc.)	1.5% - 2.0%
Intermediate (surface treated)	1.5% - 3.0%
Low (unpaved)	2.0% - 6.0%

Clear Zone -- The width of the roadside area that should be studied for possible hazard mitigation measures varies with the operating speed, traffic level and degree of curvature of the road. Desireable clear zones are indicated below. (Clear zone is measured from the edge of the traveled way.

Type A Road -- A 10-foot clear zone is desireable.

Type B Road -- A 2-foot to 5-foot clear zone is desireable; a 10-foot clear zone on the outside of sharp curves and on curves at the bottom of long grades is desireable.

Type C Road -- A 2-foot clear zone is desireable; a wider clear zone on the outside of sharp curves is suggested. On minimum maintenance roads a clear zone may not be provided.

Hazard mitigation measures to be considered include:

- ☐ Improved delineation of the road including edgelines, delineators and reflectors
- ☐ Guiderail
- ☐ Berms and earthwork
- ☐ Drainage modifications
- ☐ Removal of the hazard

Property owners should recognize the legal right of local government to remove fixed objects within the right of way of the road.

Guiderail -- New York State Department of Transportation Guiderail and Bridge rail designs are intended for high volume, high speed highways and are often too expensive for many low volume road applications. Alternate designs that are less expensive and adequately tested to insure performance may be used on low volume rural roads.

Source: *AASHTO Policy for Geometric Design of Highways and Streets*, 1984

TABLE 4

MAINTENANCE ACTIVITIES FOR RURAL LOW LOLUME ACTIVITIES
AND MINIMUM MAINTENANCE TOWN ROADS

Activity	Normal Maintenance Roads	Minimum Maintenance Roads
	Surface Maintenance	
Crack Sealing	As necessary	Maintain in manner determined by town highway superintendent consistent with volume and type of traffic and in the manner stated in section seven of this local law.
Patching and Potholes	On demand	
Surface Seals	As necessary	
Thin Overlays	As necessary	
Snow Removal	Roads kept clear	
Shoulder Maintenance	Grading cleaning	
Blading	Regular	Infrequent
	Roadside Maintenance	
Cleaning	As necessary	Maintain in manner determined by town highway superintendent consistent with volume and type of traffic and in the manner stated in section seven of this local law.
Mowing	Regular	
Brush Control	Site Distance Maintained	
Guide Rail Maint	Regular	
Drainage:		
Structure	As necessary	
Ditches	Positive drainage maintained	
Slopes	Repair failures	
	Bridges	
Cleaning	As necessary to preserve bridge	Maintain in manner determined by town highway superintendent consistent with volume and type of traffic and in the manner stated in section seven of this local law.
Lubrication	As necessary to preserve bridge	
Painting	As necessary to preserve bridge	
Deck	As necessary to preserve bridge	
Drainage	As necessary to preserve bridge	
Signs	MUTCD (1)	MUTCD (1)

Note:

(1) MUTCD is the *Manual of Uniform Traffic Control Devices.*

Surface Maintenance

Crack Sealing - manually pouring hot asphalt, with or without a fiber reinforcement material, into road surface cracks that have first been cleaned of all loose debris, vegetation, etc. The cracks may occur at construction joints, utility cuts, or just be random due to the effects of time, weather, loads, etc. Crack sealing has been found to be a very cost-effective measure, because it prevents the entry of water into the base course and subgrade. By blocking the entry of water, crack sealing indirectly strengthens the load supporting capability of the road.

Patching and Potholes - placement and compaction of asphalt concrete into surface defects, such as potholes, which have first been cut back to sound material and cleaned of loose debris, water, etc. While a certain amount of this work will have to be done on an emergency basis during inclement weather to provide a safe road, expedient patches should be replaced with permanent patches using proper methods and materials when conditions are favorable. Extensive patching and potholes is an indication that a pavement has reached the end of its functional life, and the road should be scheduled for rehabilitation in accordance with the guidelines set forth in this local law.

Surface Seals - also known as "chip seals", this method involves spraying a rapid-setting emulsified asphalt onto the road surface, followed immediately by the placement of a single layer of clean, crushed stone particles. A pneumatic, rubber-tired compactor is used to press the stones into the asphalt before the emulsion sets up. Chip sealing is used where the surface cracking is more extensive, while manual crack sealing is used where the cracking is less extensive. Chip sealing may also be used to enhance skid resistance on a slippery road. Where water entry is prevented by the surface seal, some strengthening of the road will result.

Thin Overlays - while "thin" is a relative term, it is used here to refer to hot-mix or cold-mix overlays having a thickness of 1-1/2 inches or less. This method adds more to the structural capability of the pavement than does a chip seal. However, it performs much the same function as a chip seal although it can be expected to have a more lasting effect. When a thin overlay is placed on a paved road, it is customary to use a tack coat to promote a bond between the old surface and the overlay. According to the Asphalt Institute, the tack coat should be sprayed from a distributor, allowing adequate time for it to become "tacky" before paving. Traffic should be kept off the tacked area before paving. They recommend using an SS-1 or a CSS-1 asphalt emulsion diluted 50-50 with water, and applied at a rate of 0.05 to 0.15 gallons per square yard. Application of tack coat a higher rates should be avoided, as this can lead to slippage of the overlay or "bleeding" and loss of skid resistance on the surface of the overlay.

Snow Removal - snow and ice control are performed to foster safety and to expedite travel during the winter months. Blading of snow is done to remove it from the roadway to prevent the build up of ice. Abrasives (sand, usually mixed with salt) are used to enhance trafficability during a storm or immediately afterward when a thin layer of ice or snow remains on the road. Salt is used to lower the melting temperature of the ice, and to diminish the bond of the ice on the road surface.

Shoulder Maintenance - activities may differ depending on whether the shoulder is paved or unpaved. The objective is to keep the surface smooth so that moving vehicles can leave the main roadway safely, and also to assure that water from the road will move across the shoulder and into the ditch or gutter. It is particularly important to remove the accumulated winter maintenance abrasives from the shoulders to prevent the retention of water near the edge of the pavement.

Blading - for aggregate roads and unpaved shoulders, blading removes potholes, corrugations, and other surface defects, rendering the surface smoother and safer to travel on. Blading is usually preceded by scarification to a depth slightly deeper than the deepest surface defects. Blading should be used to establish a cross-slope of 4 to 6 percent (1/2 to 3/4 inch per foot) for good drainage and to reduce the development of potholes in the aggregate surface.

Regraveling - the addition of aggregate materials to re-establish the crown and grade of the road. This activity is commonly done at the same time as blading, but less frequently. The new aggregate is needed periodically to make up for materials that have been lost due to traffic, water erosion, dusting, and blading losses.

Dust Palliation - application of water, calcium chloride, sodium chloride (salt), lignin sulfonate, or other nontoxic chemicals to bind the surface and prevent loss of dust. Dust loss leads to the gradual erosion of the road surface, reducing its thickness and load supporting capability. Dust can make summertime travel hazardous when traffic volumes are sufficient to require passing maneuvers. Sometimes the use of dust palliatives will reduce the need for blading and regraveling to a sufficient degree to be highly cost-effective.

Roadside Maintenance

Cleaning - picking up litter and other roadside debris, principally for aesthetic reasons, but also to protect the flow capacity of culverts and ditches.