Agenda - Council – May 25, 2011

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 3, 2011

Item No. 1 Maintenance Strategy for Granular Lanes

STANDING COMMITTEE RECOMMENDATION:

On May 18, 2011, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submits the following to Council:

1. That the re-allocation of $500,000 in capital funding provided for in the Granular Roadways Improvement Program be approved for the purpose of implementing a new annual granular lane Spot Repair Program to address the deteriorated condition of the City's granular lanes.

2. That the Director of Public Works be delegated authority to identify granular lane projects to be undertaken annually as part of this granular lane improvements program. Lane condition, a lane's functional use and traffic volumes along with input and consultation with the Ward Councillor will be factors in selecting and prioritizing the specific work locations.

3. That the Winnipeg Public Service review the existing "Policy with Respect to Granular Surface Roadways" last amended 23 years ago in 1988 and develop a new Granular Roadway Policy that reflects the present maintenance needs and practices. This new policy would include, but not be limited to, specific clauses regarding maintenance and upgrading of granular lanes.

4. That the Proper Officers of the City of Winnipeg be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 3, 2011

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On May 18, 2011, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On May 3, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

On April 4, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works further laid the matter over to its meeting on May 3, 2011.

On February 1, 2011, the Standing Policy Committee on Infrastructure Renewal and Public Works granted the Winnipeg Public Service an extension of time of up to 60 days to report back.

On November 23, 2010, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Assiniboia Community Committee:

1. That the Winnipeg Public Service (Public Works Department) do a complete review and implement a new gravel back lane policy that includes:

    - Options to upgrade back lanes including complete replacement of gravel and upgrades to drainage;
    - Review of best practices from other cities;
    - Buying more equipment (graders) for each region with the city;
    - Consultation and approval with Ward Councillor on gravel back lane priorities;
    - A monthly report to Area Councillors (in spring, summer and fall) through the Community Committee meetings on schedules and progress reports that can be posted on ward websites;
    - Investigate potential funding sources through the existing Granular Roadway Improvements budget.

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 3, 2011

DECISION MAKING HISTORY (continued):

STANDING COMMITTEE RECOMMENDATION (continued):

2. That the Winnipeg Public Service report back to the Standing Policy Committee on Infrastructure Renewal and Public Works at or before its February 2011 meeting, for implementation in the 2011 construction session.

COMMUNITY COMMITTEE RECOMMENDATION:

On November 16, 2010, the Assiniboia Community Committee passed the following motion:

WHEREAS unimproved gravel back lanes are a major concern for residents of St James-Brooklands ward and others areas of the City of Winnipeg;

AND WHEREAS low spots in these lanes often cause major water build up rendering the lanes unusable for large part of the spring, summer and fall;

AND WHEREAS many of these lanes are mud and need major upgrades of new gravel, upgraded drainage or simply a replacement of the lane;

AND WHEREAS the current schedule for grading gravel back lanes is not working and there is a need to increase the frequency and communications to residents on timelines of when grading will happen;

AND WHEREAS a complete review of our current unimproved gravel back lane policy is needed;

THEREFORE BE IT RESOLVED that the Public Works Department do a complete review and implement a new gravel back lanes policy that includes:

- Options to upgrade back lanes including complete replacement of gravel and upgrades to drainage;
- Review of best practices from other cities;
- Buying more equipment (graders) for each region with the city;
- Consultation and approval with the Ward Councillors on gravel back lane priorities;
- A monthly report to area Councillors (in spring, summer and fall) through the Community Committee meetings on schedules and progress reports that can be posted on ward websites;

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 3, 2011

DECISION MAKING HISTORY (continued):

COMMUNITY COMMITTEE RECOMMENDATION (continued):

- Investigate potential funding sources through the existing Granular Roadway Improvements budget;

BE IT FURTHER RESOLVED that the Winnipeg Public Service report back to the Standing Policy Committee on Infrastructure Renewal and Public Works at or before its February 2011 meeting, for implementation in the 2011 construction session,

and forwarded the matter to Standing Policy Committee on Infrastructure Renewal and Public Works.

ADMINISTRATIVE REPORT

Title: **Maintenance Strategy for Granular Lanes**

Critical Path: **Standing Policy Committee on Infrastructure Renewal and Public Works, Executive Policy Committee and Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
K. R. Boyd, P. Eng Manager of Streets Maintenance	B.W. Sacher, P. Eng. Director of Public Works	Paul Olafson o/b CFO	M Ruta A/CAO

RECOMMENDATIONS

1. That Council approve the re-allocation of $500,000 in capital funding provided for in the Granular Roadways Improvement Program for the purpose of implementing a new annual granular lane Spot Repair Program to address the deteriorated condition of the City's granular lanes.
2. That the Director of Public Works be delegated authority to identify granular lane projects to be undertaken annually as part of this granular lane improvements program. Lane condition, a lane's functional use and traffic volumes along with input and consultation with the Ward Councillor will be factors in selecting and prioritizing the specific work locations.
3. That the Winnipeg Public Service review the existing "Policy with Respect to Granular Surface Roadways" last amended 23 years ago in 1988 and develop a new Granular Roadway Policy that reflects the present maintenance needs and practices. This new policy would include, but not be limited to, specific clauses regarding maintenance and upgrading of granular lanes.
4. That the proper Officers of the City of Winnipeg be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

On November 23, 2010 the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Assiniboia Community Committee and directed:

1. That the Winnipeg Public Service (Public Works Department) do a complete review and implement a new gravel back lane policy that includes:

   - Options to upgrade back lanes including complete replacement of gravel and upgrades
     to drainage;
   - Review of best practices from other cities;
   - Buying more equipment (graders) for each region with the city;
   - Consultation and approval with Ward Councillor on gravel back lane priorities;

- A monthly report to Area Councillors (in spring, summer and fall) through the Community Committee meetings on schedules and progress reports that can be posted on ward websites;
- Investigate potential funding sources through the existing Granular Roadway Improvements budget.
-

IMPLICATIONS OF THE RECOMMENDATIONS

The Public Works Department identified a number of design alternatives that could be undertaken to improve the condition of the City's granular lanes and as such a pilot program was undertaken in 2010 to assist the Department in identifying an effective and economical maintenance/rehabilitation strategy. The objective of the pilot program was to develop suitable design parameters and determine the constructed cost of each alternative strategy. The 2010 pilot program included upgrading portions of existing granular lanes at two separate locations with a different strategy undertaken at each. The two alternative strategies chosen were expected to significantly improve the existing granular lane condition and last for period of 4-6 years.

The results of this pilot program have been beneficial in providing additional information that now allows the Public Works Department to utilize Life-Cycle Costing as a tool to examine the relative merits of various maintenance/rehabilitation alternatives. All of the relevant costs such as the initial capital value, annual maintenance and the minor rehabilitation costs that occur throughout the life of an alternative, are included. A summary of the Life-Cycle Cost Analysis (Appendix A) identifies the significant costs of each of the improvement strategies.

It is important to note that the only effective long-term solution to resolve the surface and drainage problems that are associated with poor long-term granular lane performance would be to upgrade the lanes in question to pavement with proper drainage and catch basins. Only options 1 and 2, as shown in Appendix A, provide the necessary land drainage features, such as sewers and catch basins, to achieve good long-term performance**.** As well, the other design alternatives that were considered, while less costly, would have short service lives and thus would require reworking or rehabilitation every few years. Therefore, they would not be appropriate as long-term solutions.

Of the alternatives evaluated, option 5 – Spot Repairs would provide for the restoration of the existing surface on the City's granular lanes to an acceptable standard along with some improvements in drainage. This approach would allow the lanes to be maintained in a passable condition and reduce overall maintenance costs as an interim strategy prior to the lanes being fully paved at some point in the future through the local improvement process.

It is recommended that a Spot Repairs Program be an annual one that would see approximately4 kilometers of lanes restored each year on a prioritized basis. The lanes would be prioritized City wide and be based on need and include factors such as lane condition, functionality (lane use), and traffic counts. There would also be consultation with the Ward Councilor to get input from the citizens' perspective similar to the process currently utilized for prioritizing local street rehabilitations.

This program would be funded as part of the Granular Roads Improvement Program that is currently included in the City's Capital Budget. Initially it is proposed that the annual program be established at $500,000 and that this new maintenance improvements program be reviewed after three years to measure the success of this initiative.

The City's existing "Policy with Respect to Granular Surface Roadways" was last amended in 1988 and needs to be reviewed and updated. This review would include an assessment of the current process for improving granular lanes with full pavements through the Local Improvement process and addressing the fact that the current policy does not differentiate between granular lanes and granular roads.

HISTORY

The Public Works Department is responsible for the maintenance of 86.5 kms of "granular lanes" which exist within the City of Winnipeg. Most of these granular lanes are over 40 years old and many are in a badly deteriorated condition that is a result of the minimal maintenance program that has been provided for granular lanes over the years under the City's current "Policy with Respect to Granular Surface Roadways" (Appendix B).

When the City of Winnipeg was formed under Unicity in 1972, a few of the previously rural municipalities were responsible for maintaining a number of granular lanes. Unfortunately, most of these granular lanes still exist as such today, as no concerted effort to upgrade their condition has taken place within the last 38 years. Full pavement construction requires the residents to utilize the local improvement process that needs the support of 60% of the benefiting property frontage in order to proceed. Property owners have generally not been receptive toward having lane upgrading done by local improvement. In recent years the number of existing granular lanes in Winnipeg that are upgraded to pavements, with proper drainage, is very small. Unlike "paved lanes", (with appropriate slopes and catch basins) and even "granular streets" (which are edged with ditches to transport runoff away from the street and adjacent properties without significantly harming the road surface), the majority of the "granular lanes" never had an intended drainage function. As a result any rainfall or snow melt that is experienced will accumulate in low spots that have developed over the years and this ponding leads to sections of lane that become saturated and very soft and is easily damaged by vehicular traffic, especially by larger utility vehicles and garbage trucks. The granular lane then becomes rutted creating even more areas where ponding occurs. Accordingly granular lanes are by their very nature doomed to drainage problems during periods of prolonged rainfall.

In addition the minimal maintenance that is done to make these lanes "passable" throughout the spring, summer and fall seasons must be undertaken when the granular lane surface has dried up sufficiently that the small motor graders can carry out the necessary maintenance work in an appropriate manner. Therefore, following each rainfall, Public Works must wait for suitable conditions before maintenance work can commence and often the canopies of mature trees will shade granular lanes, leaving many lanes wet and malleable for long periods of time.

When conditions finally do allow work to commence, the entire granular lane system will require attention as quickly as possible and this places a strain on the capacity of the equipment. Most of the lanes require specialized small motor graders to work in the confined areas and the City tripled its complement of this equipment in 2009. This number should be sufficient in an average year to carry out the necessary work by working extended hours and weekends. However, if climate change should ultimately result in wetter summers on average, this may have to be reconsidered and additional equipment obtained.

The City annually spends between $100,000 and $200,000 to carry out only those works necessary to keep the lanes passable, in accordance with the existing "Policy with Respect to Granular Surface Roadways", adopted by Council on Jan 20, 1988. As such, the Streets

Maintenance Division is resourced and mandated to provide only minimal maintenance of these lanes (i.e. basic grading only as necessary to keep the roadway passable, and the addition of gravel or asphalt chipping materials to fill isolated low soft spots).

A review of other Western Canadian cities identified comparable levels of limited maintenance on granular lanes within their jurisdictions. Edmonton and Calgary also have similar requirements as our City in that any strategy towards upgrading/converting any of these lanes to a lane pavement is undertaken through the municipality's Local Improvement Process.

FINANCIAL IMPACT

Financial Impact Statement **Date:** April 8, 2011

Project Name: **First Year of Program** **2011**

Maintenance Strategy for Granular Lanes

	2011	2012	2013	2014	2015
Capital					
Capital Expenditures Required	$ 500,000	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	500,000	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants (Enter Description Here)	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other - Enter Description Here	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs	$ -	$ -	$ -	$ -	$ -
Less: Incremental Revenue/Recovery	-	-	-	-	-
Net Cost/(Benefit)	$ -	$ -	$ -	$ -	$ -
Less: Existing Budget Amounts	-	-	-	-	-
Net Budget Adjustment Required	$ -	$ -	$ -	$ -	$ -

Additional Comments: The $500,000 funding recommended for this granular lane maintenance strategy is included in the $3 million Granular Roadway Improvements portion of the 2011 capital budget for the Regional and Local Street Program adopted by Council on February 22, 2011.

"Original signed by D. Stewart, CA"
Darcy Stewart, CA
Manager, Finance & Administration

CONSULTATION

In preparing this report there was consultation with: n/a

SUBMITTED BY

Department: Public Works Department
Division: Streets Maintenance Division
Prepared by: Bruce McPhail, P. Eng.
Date: April 8, 2011
File No.:

Attachments:
Appendix A: Life-Cycle Cost Analysis of Design Alternatives
Appendix B**:** Policy With Respect To Granular Surface Roadways (1988)

Appendix A

Life-Cycle Cost Analysis of Design Alternatives

Analysis Period - 50 years **Granular Lane Inventory 320,000 m^2**

Option	Design Alternative	Initial Cost (per m^2)	Expected Service Life	Present Value (per m^2)** See Note 1	Level of Service over Life of Facility	Total Initial Investment Required
1	Concrete Pavement	$300.00	50 years	$305	Excellent	$96M
2	Asphalt Pavement	$125.00	25 years	$174	Very Good	$40M
3	Asphalt Chippings	$40.00	5 years	$142	Moderate	$13M
4	Asphalt Chip Seal	$40.00	5 years	$142	Moderate	$14M
5	Spot Repairs	$25.00	3 years	$72	Fair	$8M
6	Status Quo-Minimal Maintenance	$0.40*	1 years	$7.30	Poor	$0.1M

**** Annual Cost of Current Maintenance Strategy***

***** Discount Rate = 5.0%***

Note 1 The Present Values include the Initial Investment Required and any future required maintenance and minor rehabilitation treatments over the 50 year period.

Appendix B:

Amendment to Policy with respect to Granular Surface Roadways
(Adopted by Council on January 20, 1988)

Council on April 18th, 1979, adopted the following policy with respect to the maintenance of granular surface roadways, namely:

i) Existing unimproved rights-of-way shall be constructed to an all-weather granular surface and financed as a local improvement. For those properties which are zoned agricultural, the maximum accessible frontage for any single property shall be limited to 300 feet, as provided under Section 370(1) and 383(1) of The City of Winnipeg Act.

ii) Granular surface roadways constructed as a local improvement be maintained at the cost of the City-at-large for a period not in excess of three years from the date of completion of construction.

iii) Beyond the three years referred to in Clause (ii), the City will carry out only those works necessary to keep the roadway passable. These works consist of basic grading only and will not keep the roadway in a condition comparable to that after completion of the local improvement. Restoration of the roadway to the original local improvement construction standard (continuous application of granular material and dust palliative treatment) would only be done at the expense of the fronting owners as a new improvement.

iv) Provide, in the Local Improvement By-Law No. 98/72, for the assessment, as a Local Improvement, the cost of placing gravel and crushed stone on existing gravel surface roadways.

Subsequently, on May 21st, 1980, Council adopted the following policy with respect to dust palliative treatments on collector type streets and bus routes of the City of Winnipeg Transit System:

1) That as a City-at-large expense, a single dust palliative treatment per annum be applied to all gravel roads serving residential and agricultural properties of a collector street type.

2) That as a City-at-large expense, a single dust palliative treatment per year will be applied to all gravel roads used as bus routes by the City of Winnipeg Transit System.

3) That rural gravel roads meeting criteria outlined in recommendation 1) and 2) above be given a dust palliative treatment 150 feet either side of residential buildings only.

On March 4th, 1987, the policy was further amended to provide that a one yearly dust palliative treatment be applied at City-at-large expense, on all gravel lanes and /or streets on the perimeter boundaries of City-owned recreation fields, parks and playgrounds.

The existing policy does not differentiate between gravel roads located within or outside of the Urban Building Limit. In essence, the policy does not allow any gravel road to be regravelled unless a local improvement for placing gravel is approved of by the benefiting property owners or the roadway is a collector-type street/bus route eligible for the single yearly dust palliative treatment union also involves the application of minimal amounts of gravel.

Gravel roads constantly lose gravel from their surfaces due to the particles being ejected by the tires of passing vehicles. In spite of the Operations Department using its graders to try and blade the lost granular material back onto the roadway surfaces from the ditches, all gravel roads have to be periodically regravelled if they are to retain the ability to convey vehicles during all weather

conditions. With the Council policy of April 18th, 1979, in place, gravel roads not classified as collector streets or bus routes which have not been subject to local improvements are now beginning to become impassable during periods of wet weather due to a lack of gravel. Even the collector-type streets and bus routes, which receive a minimal amount of gravel in conjunction with the application of the yearly dust allaying treatment, have deteriorated to the point where their surfaces can become unreliable during heavy periods of rain. Gravel streets that have become badly rutted and filled with mud holes are not graded by the Operations Department until the roadway dries out, as operating the heavy equipment on the saturated surface will only make the situation worse.

In order to temporarily remedy this situation, a minimal application of a one-inch thick layer of gravel would have to be applied to all such deteriorated roads so that they could gain or retain an all-weather conveyance capability.

The application would not return the gravel roads to their condition as they existed in 1979 because the loss of gravel has been substantial since that time. Regravelling with a one-inch thick layer of gravel would likely have to be carried out every two or three years if the thoroughfares are to continue to be passable during all weather conditions.

The estimated cost associated with the one-inch thick gravel placement on a City-wide basis is as follows: -

175.8 kilometers x $6,600/kilometer = $1,160,000.00

In accordance with the existing policy, gravel roads either within or beyond the Urban Limit Line are not given dust suppression treatments unless they have been the subjects of local improvements for such work or designated as being collector streets or bus routes. The estimated cost of providing a once yearly dust treatment on roadways in front of all those residential properties not already receiving such service is $213,000.00.

Insofar as the blading of the gravel roads in the City is concerned this work is carried out on an as-required basis following inspections which determine whether or not the work is required.

A questionnaire regarding the maintenance of gravel roads was sent to each of the eight municipalities surrounding the City of Winnipeg. It appears that all of the municipalities apply gravel and dust palliatives to their roads at the expense of the municipality-at-large. The regravellings occur generally on a yearly basis with some municipalities applying gravel on a two-year cycle. On the other hand, the applications of materials for dust control purposed vary from once a year for most municipalities and up to three times a year for some others. Most municipalities grade their gravel roads every two weeks or more often depending on the weather conditions as the minimum level of service that is given to those thoroughfares.

On September 15th, 1987, your Committee on Works and Operations considered the following proposals from the Executive Policy Committee:

1) That as a City-at-large expense, that two palliative treatments per annum be applied to all gravel roads serving residential and agricultural properties of a collector street type.

2) That as a City-at-large expense, two dust palliative treatments per year be applied to all gravel roads used as bus routes by the City of Winnipeg Transit System.

3) That other rural gravel roads outside the urban limit line meeting criteria outlined in recommendations 1 and 2 above be given a dust palliative treatment 150 feet either side of residential buildings only,

As well as the following submission from Councillor Clement:

"That the existing policy on gravel road maintenance as adopted by Council on April 18th, 1979 and modified on May 21st, 1980 and again on March 4th, 1987 be amended effective in 1988 to provide for:

a) As in March 4th, 1987 amendment that a dust palliative treatment be applied on all gravel lanes and/or streets on the perimeter boundaries of City-owned recreation fields, parks and playgrounds.

b) A one-inch thick gravel application to be carried out approximately every two or three years if required on gravel roads in agriculturally zoned areas.

c) That two dust palliative treatments per annum be applied to all gravel roads serving residential and agricultural properties of a collector street type.

d) That two dust palliative treatments per year be applied to all gravel roads used as bus routes by the City of Winnipeg Transit System.

e) A yearly application of a dust palliative on rural gravel roadways, 50 feet either side and in front of those residential properties not already receiving such services.

f) That established unimproved roadways inside the urban limit line as designated by Plan Winnipeg, that have adjoining lands that have R1 Zoning be maintained to a road oiling Type II level of service carried out every three to five years as required.

g) That funds be provided for this purpose in future Current Budgets beginning in 1988."

Your Committee referred the foregoing proposals to the administration to determine the costs involved to implement same throughout all areas of the City.

The three proposals from the Executive Policy Committee appear to have been incorporated into Councillor Clement's submission with the only anomaly being the 150 feet of dust palliative to be applied on either side of residential buildings specified in the third proposal from the Executive Policy Committee as compared to the fifty foot dimension for dust treatment to be placed on either side and in front of residential buildings as indicated in Clause a) of Councillor Clement's proposal. As the 150 foot dimension has been utilized as the standard measurement for such dust allaying operations since 1980, all costs have been estimated using this figure. The cost implications of Councillor Clement's submission are discussed on a clause by clause basis as follows: -

Clause a)

"As in March 4th, 1987 amendment that a dust palliative treatment be applied on all gravel lanes and/or streets on the perimeter boundaries of City-owned recreation fields, parks and playgrounds."

This proposal will be provided for in the Operation Department's 1988 Preliminary Current Estimates as a continuation of such work carried out in 1987, and therefore there will be no additional new funding required to carry out this program.

Clause b)

"A one-inch thick gravel application to be carried out approximately every two or three years if required on gravel roads in agriculturally zoned areas."

There are approximately 137 kilometers of gravel roads situated within and beyond the Urban Limit Line that service agriculturally zoned properties. On the assumption that these thoroughfares would be regravelled, on average, once every two and one-half years, the additional annual cost in 1988 would be $361,700.00.

It is to be noted that there is a significant length of gravel roads in the City, approximately thirty kilometers, that serve properties that are not agriculturally zoned, that is, commercially and industrially zoned lands as well s the residentially zoned areas beyond the Urban Limit Line, such as South Headingley. In the event that this same service level is extended to these roads, the additional annual cost in 1988, would be $79,200.00.

Clauses c) and d)

c) "That two dust palliative treatments per annum be applied to all gravel roads serving residential and agricultural properties of a collector street type."

d) "That two dust palliative treatments per year be applied to all gravel roads used as bus routes by the City of Winnipeg Transit System."

The additional annual cost in 1988 of applying the second dust palliative treatment to all gravel collectors and bus routes serving residential and agricultural properties would be $157,800.00.

Clause e)

"A yearly application of a dust palliative on rural gravel roadways, 50 feet either side and in front of those residential properties not already receiving such services."

The additional annual cost in 1988 of applying a dust palliative on rural gravel roadways in front and beside those residential properties not already receiving such service, is $115,000.00. Should it be deemed desirable to extend the application of dust palliatives to include those gravel roads that serve commercial and industrial properties, then the additional annual cost in 1988 would be $144,000.00.

Clause f)

"That established unimproved roadways inside the urban limit line as designated by Plan Winnipeg, that have adjoining lands that have R1 Zoning be maintained to a road oiling Type II level of service carried out every three to five years as required."

The total length of gravel roads within the Urban Limit Line that serve residentially zoned properties is approximately ninety-nine kilometers. Assuming that these roads are given a Type II oiling, on average, once every four years, the additional annual cost in 1988 would be $730,100.00.

Note: A Type II Oiling consists of a moderate amount of scarifying and compacting of the existing roadway surface, the placing of a one-inch thick (approximate) lift of gravel and an application of sand and oil.

Your Committee on Works and Operations recommends:

1) That the existing policy on gravel road maintenance as adopted by Council on April 18th, 1979 and modified on May 21st, 1980 and again on March 4th, 1987 be amended effective in 1988 to provide for:

   i) (As in the March 4th, 1987 amendment that) a dust palliative treatment to be applied on all gravel lanes and/or streets on the perimeter boundaries of City-owned recreation fields, parks and playgrounds.

   ii) A one-inch thick gravel application to be carried out approximately every two or three years if required on gravel roads in agriculturally zoned areas

   iii) That two dust palliative treatments per annum be applied to all gravel roads serving residential and agricultural properties of a collector street type.

   iv) Two dust palliative treatments per year be applied to all gravel roads used as bus routes by the City of Winnipeg Transit System.

   v) A yearly application of a dust palliative on rural gravel roadways, 150 feet either side and in front of those residential properties not already receiving such services.

   vi) Established unimproved roadways inside the urban limit line as designated by Plan Winnipeg, that have adjoining lands that have R1 Zoning be maintained to a road oiling Type II level of service carried out every three to five years as required.

   vii) That funds be provided for this purpose in future Current Budgets beginning in 1988.

2) That the proper officers of the City do all things necessary to implement the foregoing.



