Study of Local Match Requirements
Pursuant to Act 56, Sec. 61, 2003 Session

Joint Fiscal Office in cooperation with the Vermont Agency of Transportation and the Vermont League of Cities and Towns

January 15, 2004

I. Study Directive

Sec. 61 of Act 56, 2003 Session provides as follows:

Sec. 61 Study Of Local Match Requirements

(a) The joint fiscal office, in cooperation with the agency of transportation and the agency of administration, and in consultation with the Vermont League of Cities and Towns, shall analyze:
  (1) the continuing validity of the policy rationales underlying the different treatment of municipalities in current law with respect to local match funding requirements for state-funded transportation projects;
  (2) the differential fiscal impact of the current local match system on municipalities with respect to their ability to plan and accomplish transportation improvements;
  (3) options to redefine the standards for fixing local match funding requirements; and

(4) the fiscal impact which implementation of any alternative system of local match requirements would have on the state transportation fund and municipalities.

(b) The agency of transportation shall hold two public hearings and report the findings to the joint fiscal office and the agency of administration by October 1, 2003.

(c) The joint fiscal office shall deliver a report of its findings and analysis to the members of the House and Senate committees on transportation by January 15, 2004.

II. Background

The local match requirements apply to state funded projects involving town owned roads, bridges and other transportation structures. All roads in Vermont, including bridges, culverts and related structures, are classified according to ownership. State highways, including the interstate, are owned by the state. State highways are those "so designated on a map entitled 'Vermont State Highways' filed in the office of the secretary of state on June 30, 1977" as subsequently modified with the approval of the general assembly.[1] All other roads are owned by and the responsibility of towns. 19 V.S.A. §302 provides that all town highways shall be classified into one or four classes:

(1) Class 1 town highways are segments of state highways through certain towns. The history of Class 1 highways is described more fully below,
(2) Class 2 town highways are the "most important highways" of a town which have "more than normal traffic" or which connect the town to other towns,
(3) Class 3 town highways are other town highways which meet certain conditions regarding construction and negotiability, and
(4) Class 4 town highways are all other town owned roads.

Class 1 highways are fixed by statute. Class 2 and 3 highways are determined by a town's select board subject to approval by the agency of transportation (hereafter the "agency").

Federal highway aid uses a different classification system based on the functional role of a highway in the transportation system. By agreement between the state and federal authorities, all Vermont roads are classified according to the federal system which determines their eligibility for federal highway aid funds. In general, federal aid is limited to the principal, well traveled connections between regions although special federal programs exist for town bridges, bicycle paths and pedestrian facilities. Roads that are primarily limited to local traffic are not eligible for federal funds. Federal funds are also generally limited to the construction or reconstruction of roads, bridges and related structures and are not available for general maintenance.

Total state financial support (including the state's federal funds) for the maintenance, construction and reconstruction of town transportation systems falls into two broad categories. The first category includes all projects involving town owned facilities that are not eligible for federal aid. By definition, these programs are all 100% funded by state revenue. This category includes Town Highway Aid, a general block grant program to towns which towns may use for "town highway

[1] 19 V.S.A. §14 and §15.

construction, improvement, and maintenance purposes or as the nonfederal share for public transit assistance" or "for the establishment and maintenance of bicycle routes."[2]

Funds appropriated for the Town Highway Aid program are distributed in accordance with a formula that allocates 6% of the total to Class 1 highways, 44% to Class 2 highways and the remaining 50% to Class 3 highways. Each town's share of the three pools is determined by its number of Class 1 miles as a proportion of total Class 1 miles in the state; its number of Class 2 miles as a proportion of total Class 2 miles in the state; and its number of Class 3 miles as a proportion of total Class 3 miles in the state. While the funds are allocated on the basis of Class 1-3 mileage, towns can spend the funds as they see fit. There are no local match requirements for Town Highway Aid.

There are two other programs in this non-federal category. They are (1) the Town Structures program and (2) the Class 2 Highway program. The structures program covers culverts, bridges, retaining walls and other highway structures that do no qualify for federal aid while the Class 2 program is for the paving and reconstruction of Class 2 roads. Both programs are competitive application programs. Towns submit project proposals and the agency allocates available funds based on an evaluation of relative priority. Both programs are subject to local match requirements.

The second broad category includes all projects involving town owned facilities that are eligible for federal highway aid. These appear under two principal line items in the state transportation budget. One is the Town Highway Bridge program. This is a special federal program which provides funds to build or reconstruct bridges on roads which otherwise are not eligible for federal aid. Federal aid typically covers 80% of a project's cost with the state responsible for the other 20%. Under state law, namely the local match requirements, the state's 20% share is split between the state and the town.

"Program Development" is the other principal line item where town projects appear. Program Development includes paving, roadway construction and reconstruction, bicycle and pedestrian projects and enhancement projects. Many of these projects involve state highways, state bridges and the interstate system but they also include, for example, paving and reconstruction projects on town highways that qualify for federal aid under the federal aid classification system. As in the town bridge program, federal funds typically cover 80% of a project's cost with the state responsible for the other 20% which by state law is split between the state and town.

Enhancement projects are a special category of federal aid. By state law these federal funds are reserved for town sponsored projects on a competitive application basis.[3] Funding is 80% federal with the town responsible for the other 20%

III. Local Match Statutes

The statute which defines the general local match requirement is 19 V.S.A. §309a. It provides that "in any case of highway or bridge construction in which a federal/state/local or state/local funding

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[2] 19 V.S.A. §306(1)(5)
[3] 19 V.S.A. §38.

match is authorized, the municipality's share shall be ten percent of the project costs." The general rule requiring a 10% local match on all town projects has a number of qualifications.

First, 19 V.S.A. §309a(b) provides that the local match requirement shall not apply to:

- "any bridge or roadway project involving a local financial share in which the municipality, after its review of the conceptual project plans, chooses not to proceed with the proposed project; in such circumstances, the agency shall pay 100 percent of the project costs incurred through the date it receives such notification from the municipality,"[4]

- projects for which the general assembly has authorized a different funding formula[5]

- bridge projects where the town and agency agree that rehabilitation is the preferred alternative, in which case the local match requirement is reduced to 5%[6], and

- projects involving a structure that is in the historic bridge program, in which case there is no local match requirement.[7]

Second, as a general qualification, 19 V.S.A. §309a (c) provides:

> "Notwithstanding the provisions of this section, a municipality's share of any single project shall not exceed an amount equivalent to the amount which could be raised in one year by increasing the municipality's tax rate by $0.50. In these cases, the remaining portion of the nonfederal share shall be made up by the agency, using available state funds."

Third, 19 V.S.A. §309b applies special rules to the town highway structures program and the Class 2 road way program. The local match requirement in the structures program is fixed at 20% and the Class 2 program at 30% of a project's cost. However, if a town has adopted road and bridge standards and has completed a network inventory, the local match percentage is reduced to 10% and 20% respectively.

Fourth, as noted above, towns awarded grants for enhancement projects are responsible for the 20% non-federal share of project costs.

Fifth, 19 V.S.A. §306a (a) provides that "unless otherwise directed by the legislative body of a municipality, the agency shall assume direct responsibility for scheduled surface maintenance of all class 1 town highways, at no expense to the municipality. The class 1 town highways shall be included in the agency's pavement management system and analyzed for resurfacing needs and considered for programming of available federal and state funds on the same basis as state highways." "Scheduled surface maintenance" basically refers to paving projects. Subsection (c) provides that major reconstruction of class 1 town highways, beyond the usual scope of

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[4] 19 V.S.A. §309a (b)(5)
[5] 19 V.S.A. §309a (b)(3)
[6] 19 V.S.A. §309a (b)(6)
[7] 19 V.S.A. §309a (b)(7)

resurfacing, shall continue to be a municipal responsibility, subject to availability of federal and state aid under chapter 15 of this title and payment of the uniform local share under section 309a of this title." Subsection (b) provides that the state's responsibility for surface maintenance "shall not affect any legislative body's jurisdiction over class 1 town highways or any municipality's responsibility for general maintenance of class 1 town highways, including, but not limited to, spot patching, traffic control devices, curbs, sidewalks, drainage and snow removal."

IV Public Hearing Results

As directed in Act 56, Sec. 61, the agency conducted two public hearings on the topic of local match requirements on September 22, 2003 in the City of Rutland and on October 1, 2003 in the City of Montpelier. The agency's report on these hearings is enclosed as Attachment #4. The hearings elicited discussion on a broad range of issues with three principal themes expressed.

First, as general rule, the local match requirements work well and do not impose an undue financial burden on towns.

Second, the category of Class 1 Highways is out of date, and being out of date, the Class 1 program in its current state is inequitable.

Third, the current system for classifying town highways, and particularly the use of class road mileage to determine Town Highway Aid, does not adequately take into account other factors which have a direct impact on costs such as (1) the regional use of town highways or (2) the different number of bridges within towns.

V. Class 1 Town Highways

(a) Historical background

The history of Class 1 Town Highways goes back to 1931. In Act 61 of the 1931 Session, the legislature created the state highway system. The system incorporated all highways -

> "included or hereafter to be included in the 'Federal Aid System'...; provided, however, that in towns having a population of fifteen hundred or over as shown by the last available federal census, such state highways may not include streets and highways where, for the space of one half mile thereon, the houses average to stand one hundred feet or less apart."

In other words, a Class 1 highway was defined as that segment of a state highway which runs through a town, which by 1931 standards was considered to be relatively large in population and also built up in terms of housing density. On the basis of this 1931 Act the system of Class 1 highways was created. The 1931 Act is no longer operative. Under current law, as described, the state highway system consists of those highway segments (1) which are so designated on the June 30, 1997 Vermont State Highway map and (2) which subsequently have been added or deleted by the general assembly.[8]

Under current law, Class 1 town highways are defined as –

[8] 19 V.S.A. §14 and §15

"those town highways which form an extension of a state highway route and which carry a state highway route number. The agency shall determine which highways are to be class 1 highways."[9]

While the statue provides that the agency shall determine the Class 1 highways, the agency's discretion is narrowly limited by the definition of a Class 1 highway as forming the extension of a state highway route and bearing a state highway route number. This provision was added in 1985.

From the current status of the Class 1 system, it would appear that very few changes have been made in the system since 1931. Rather than tracing the evolution of the Class 1 system over the intervening 73 years, this study focuses on the current status of the system and examines its rationale given its historical context.

(b) Significance

The significance of the Class 1 system is a matter of cost and control. All Class 1 highways are functionally part of the state highway system and all state highway segments through built up town centers are potential candidates for Class 1 status. Under the current system, changing a state highway segment to Class 1 status would have the effect of shifting costs and operational responsibility from the state to the town. Changing a Class 1 highway back to a state highway would eliminate the town's control but would also have the net effect of shifting costs from the town to the state.

(c) Updating the population parameter

Attachment #1 is a table of every town in Vermont which either –

(1) currently has a Class 1 highway,
(2) had a 1930 population of 1,500 or more, or
(3) had a 2000 population of 1,500 or more.

The table also shows the number of miles of state highway that run through each town. There are 108 towns in this table, all with state highway mileage, 45 with Class 1 highways and 63 with no Class 1 highways. Only two of the towns have a current population less than 1,500: (1) Brighton in Essex County with 1.7 miles of Class 1 roads, a 1930 population of 2,002 and a 2000 population of 1,260 and (2) Readsboro in Bennington County which, despite a 1930 population of only 1,043 somehow ended up with .5 miles of Class 1 roads. Readsboro's current population is 809.

That leaves 106 towns with a current population over 1,500; 43 with Class 1 highways and 63 without. Obviously if the Class 1 system were simply updated using the 1931 criteria, the number of Class 1 highways would be greatly expanded. The Class 1 system would also significantly change if the criteria were updated on a proportional basis. In 1930, a town of 1,500 represented 0.42% of the state's then total population. Applying the same percentage to the state's current total population, the town population cut off figure would be 2,500. If the system were limited to towns with a population of 2,500 or more, the number of Class 1 towns would be 72, of which 34 would be entirely new, and 38 would be existing Class 1 towns with 7 current Class 1 towns dropping out.

[9] 19 V.S.A. §302

(d) Rationale for the Class 1 category

It is apparent that any simple updating or redefinition of the Class 1 criteria to treat all towns on a uniform basis would involve a significant change in the current system. Of course, merely updating the Class 1 criteria begs the underlying question, namely what is the rationale for having a category of Class 1 highways?

A variety of arguments can be made for and against the concept of having a special category of Class 1 roads. On the one hand, concentrated town centers tend to generate a disproportionate amount of traffic. On the other hand, one of the essential purposes of state highways is to connect outlying areas to town centers. The increased traffic on state highways through town centers imposes costs on the state in the form of extra wear and tear but the very purpose of state highways is to enable and facilitate this additional traffic.

We do not know the rationale of the 1931 legislature with respect to the housing density feature of the 1931 Act but it is consistent with the concept of town centers as being a disproportionate traffic generator. Vermont towns cover such a large geographic area that a system which made towns responsible for the state highways that run through them would eliminate a large proportion of the state highway system. Limiting the Class 1 system to those state highways segments in built up town centers confines the shared responsibility of towns to those state highway segments which typically connect to the commercial and cultural center of the town. Because towns cover such a broad geographic area, the extra costs to the town of the Class 1 road are shared by all who benefit from the town center, town center residents as well as town residents from outlying areas.

While the equity issue can be debated either way, there is a strong argument in favor of some form of Class 1 category on efficiency grounds. In large towns, for example, state highways through "Main Street" are in central business districts with parking spaces and sidewalks, which in winter the towns have a special interest in keeping clear. The interest of the towns in snow removal goes far beyond the mandate of the state which is simply to keep the state highway clear for through traffic.

From an efficiency perspective, it therefore makes sense that towns which have a special interest in the maintenance and condition of their state highway Main Streets should have operational control over these segments. Operational control, however, is a separate and distinct issue from financial responsibility. Vesting operational control over segments of the state highway system for maintenance purposes to those towns with an interest in having such control would not preclude the state from financially contributing to such maintenance.

Thus, while there are sound reasons for creating a special category of Class 1 state highway segments for purposes of maintenance efficiency, this still does not answer the question of who should pay the bills. Whatever rationale is used to apportion financial responsibility for the maintenance and reconstruction of state highway Main Street segments, it is obvious the rationale should be applied on a uniform and consistent basis to every town in the state. Given the disparity in the current system that has grown over time, any redefinition of the system is going to have a significant impact on both the state and on towns, both financially and operationally.

(e) Per mile highway costs

Table 1 below compares the average annual cost per mile to the state of a state highway and a Class 1 highway under current law:

Table 1 - Class 1 system - Annual cost per mile to the state			
Item	1 - Class 1	2 - State highway	1 - 2
Annual maintenance	10,639	12,855	-2,216
Paving	5,000	5,000	0
Reconstruction	16,250	32,500	-16,250
Total annual cost per mile	31,889	50,355	-18,466

These figures are derived as follows:

(1) **Annual maintenance** – The state is responsible for annual maintenance of state highways and the agency estimates the annual cost of maintaining an average mile of state highway is $12,855. Towns are responsible for annual maintenance of Class 1 highways but a portion of state funded Town Highway Aid is allocated to Class 1 highways. Under 19 V.S.A. §306a, six percent of the total of Town Highway Aid is apportioned to Class 1 highways. At current levels of Town Highway Aid this 6% allocation comes to $1,431,464. With 134.5 miles in the Class 1 system (the exact figure and divisor used in all calculations is 134.548), this translates to $10,639 of Class 1 aid per mile.

(2) **Paving** – Under current law, all state highway and Class 1 paving is funded 80% with federal aid and 20% state funds. On a life cycle basis these highways should be repaved on average every 12 years at an average cost of $300,000 per mile. The average annual cost per mile to the state therefore equals $300,000 times 20% divided by 12.

(3) **Reconstruction** – Under current law, state highway reconstruction is funded with 80% federal aid and 20% state funds. Class 1 highway reconstruction is funded with 80% federal aid, 10% state funds and 10% local funds. On a life cycle basis these highways should be reconstructed on average every 40 years at a cost which ranges between $3 million and $10 million per mile. For purposes of this study, the mid-point figure of $6.5 million per mile is used as the average. The average annual cost per mile to the state for state highway reconstruction therefore equals $6.5 million times 20% divided by 40. For Class 1 miles the percentage is reduced from 20% to 10%,

The total annual cost to the state of the Class 1 system is simply these per mile costs times the 134.5 total Class 1 miles, as summarized in table 2 below:

Table 2 - Class 1 system - Total annual cost to the state	
Item	System cost
Annual maintenance	1,431,464
Paving	672,740
Reconstruction	2,186,405
Total annual cost	4,290,609

These figures represent an annual average over a 40 year life cycle. Given the extremely lumpy nature of paving and reconstruction costs and the variability of winter maintenance costs, actual state and town spending in any particular year on Class 1 highways may be several magnitudes

above or below these averages. To enable easy reduplication, all calculations have been rounded to single digits but the resulting figures imply a degree of accuracy and certainty which is not real.

The most important variable is the average cost of reconstruction which can range between $3 million and $10 million per mile with segments through less urban environments generally at the lower end and segments through more urban environments generally at the higher end. The figure used for an average is simply the mid-point, $6.5 million, which may or may not reflect the real average on the ground. This figure could be refined by a more detailed analysis of the existing Class 1 system, but the relevant figure for projection purposes is the estimated average for the Class 1 system as it may be redefined. If the system is redefined, it is most likely that less urban environments would drop out of the system while new, more urban environments would be included, which would have the effect of increasing the system average for reconstruction costs. Considering the significance of reconstruction costs as a proportion of total costs, it will be important to refine the system average estimate as the scope of any redefined system is clarified.

That proviso aside, table 1 can be used to project the aggregate financial impact of any redefinition of the Class 1 system under the current financial share rules. Under current law, any change in the status of a state or Class 1 highway is zero sum; one mile added to the Class 1 system is 1 mile less in the state highway system. For every net additional mile added to the Class 1 system (and thus subtracted from the state highway system) above the current total of 134.5 miles, the state's annual maintenance costs would be reduced by the difference between the state funded Town Highway Aid apportioned to Class 1 highways and the annual maintenance cost of an average mile of state highway: $10,639 - $12,855 = -$2,216 per mile per year. Paving, under current law, would be unaffected while the state's annual average reconstruction costs would be reduced by the difference between the state's 10% share on Class 1 highways and the state's 20% share on state highways: $16,250 - $32,500 = -$16,250 per mile per year.

Here the minus sign represents a net reduction in the state's costs. For any redefinition of the Class 1 system that results in a net contraction of the Class 1 system below the current total of 134.5 miles, the signs are simply reversed and the plus signs represent a net increase in the state's costs. The impact on towns is the converse of these figures, a decrease in state costs being matched by an increase in town costs and vice-versa. At least that is the case when a Class 1 and an average state highway mile are viewed as being equivalent in cost.

From table 1 the respective financial contributions of the state and towns to the annual average costs of a mile of Class 1 highway can be derived. This breakdown is detailed in table 3:

Table 3 - State and town contributions to the annual cost of one mile of Class 1 highway

Item	State share	State %	Town Share	Town %	Total
Annual maintenance	10,639	82.8%	2,216	17.2%	12,855
Paving	5,000	100.0%	0	0.0%	5,000
Reconstruction	16,250	50.0%	16,250	50.0%	32,500
Total annual cost per mile	31,889	63.3%	18,466	36.7%	50,355

(f) Cash versus accrual cost items

Table 3 highlights an important feature of the current system. For the state, paving and reconstruction of state and Class 1 highways is an annual, ongoing effort. For towns, on the other

hand, reconstruction of a Class 1 highway can represent an extremely lumpy and frequently outsized liability in a town's long term budget projections. On an accrual basis, this liability for future reconstruction constitutes 88% (16,250 / 18,466) of the town's share of annual Class 1 costs, but when it is years away, the reconstruction liability is effectively hidden. On a year by year cash basis, a Class 1 town only confronts the $2,216 per mile difference between its Class 1 Town Highway Aid and the cost of annual maintenance. Towns can establish reserve accounts to cover future reconstruction costs but considering the 10-15 year lead time involved in reconstruction projects, the multi-year delays in such projects that can occur and the changes in project cost estimates that can also occur, town budget planning for Class 1 reconstruction projects presents a difficult challenge.

One obvious measure to ameliorate this town budget problem is to reduce the town's share of Class 1 reconstruction costs, but that raises another important structural issue. Ideally, the Class 1 system should be designed to provide towns with an incentive to perform annual and other periodic maintenance on their Class 1 highways at a level which minimizes their life cycle costs and maximizes the highway's useful life. The12 year paving and 40 year reconstruction cycles assume that certain annual and periodic maintenance is performed on a timely basis. If such work is not performed, or not performed when needed, the structural integrity of the highway may deteriorate at a faster rate, shortening its useful life and requiring paving or reconstruction sooner than otherwise need be the case.

The most direct structural incentive to encourage the performance of life cycle maintenance is to require that towns bear a portion of the cost of repaving and reconstruction. Under the current system, however, towns bear no portion of the cost of paving which, compared to reconstruction, is relatively predictable in cost and in terms of timing; and bear 50% of the cost of reconstruction which, compared to paving, is much less predictable both in terms of cost and timing. If the Class 1 system is redefined, not only its scope in terms of mileage but its rules regarding cost sharing should be re-examined with a view to creating structural incentives that both encourage life cycle maintenance and align more closely to town budget realities.

(g) Base line scenario

The base line scenario with respect to the Class 1 system is the net annual cost to the state of eliminating the category. If the Class 1 category were eliminated and no other change in cost sharing made, the 134.5 miles of existing Class 1 highway would revert to state highway status with the state 100% responsible for maintenance, paving and reconstruction. The net fiscal impact on the state is the $18,466 difference between the annual cost of a mile of state highway and the annual cost to the state of a mile of Class 1 highway, with the aggregate annual fiscal impact being a net increase in state costs equal to 134.5 miles times $18,466 = $2,484,556. These costs are summarized in table 4 below where maintenance and reconstruction costs are the gross annual cost to the state of re-incorporating the existing Class 1 system into the state highway system. Since paving is already 100% state funded, eliminating the Class 1 category would have no net effect on such costs. From the gross annual costs of maintenance and reconstruction, the net cost is produced by deducting (1) the current level of Town Highway Aid allocated to Class 1 highways and (2) the 10% of reconstruction costs which the state is already paying.

Table 4 – Net annual cost to the state of eliminating the Class 1 category	
Maintenance	1,729,615
Reconstruction	4,372,810
Total gross annual costs	6,102,425
- Class 1 state aid	-1,431,464
- 10% of reconstruction	-2,186,405
Net annual cost to the state	2,484,556

(h) Redefinition scenarios – population parameter

If the legislature determines that towns with built up town centers along state highways should share responsibility for the maintenance and reconstruction of such segments, there are any number of options for defining how that responsibility could be shared, both financially and operationally. Any redefinition of the Class 1 system is a two step process. The first step is to determine which towns and which state highway segments within those towns should be included in the system. The second step is to determine how financial and operational responsibility should be divided between the state and the towns with respect to the segments in the system.

Given the number of variables and issues involved in any redefinition of the Class 1 system, this study does not purport to identify any particular scenario as being more equitable or efficient than another. Instead, this study attempts to identify the issues and to convey a sense of the financial magnitudes involved across the broad range of possible scenarios.

Regarding the first step, the two key variables are (1) the town population level required for Class 1 status and (2) the density measure and level used to determine the length of state highway segments through towns that are assigned Class 1 status. For the first variable, this study analyzes two town population parameters: 3,000 and 5,000. The 3,000 population figure simply represents a rounded proportional updating of the 1931 parameter of 1,500. The 5,000 figure was selected because, when combined with the density measure described below, it produces a total number of Class 1 miles close to the current level.

(i) Redefinition scenarios – density parameter

Regarding the second variable, no attempt was made to update the density criterion of the 1931 Act because of the time and resources required by an accurate survey. When "state highway" is defined as the entire highway route through a town without regard to the current legal status of particular segments, the 1931 concept was to limit the Class 1 system to those more urbanized segments of town state highways. When an appropriate standard for identifying urbanized segments is determined and an accurate survey is performed, from the resulting data one would be able to calculate the ratio of urban state highway miles to total state highway miles. At least on an aggregate basis, that ratio multiplied by total state highways would equal the number of urban state highway miles. This study uses the existing Class 1 data to project what that ratio of urban miles to total miles might be in a redefined system and then uses that ratio to determine the number of Class 1 miles in the different town population scenarios.

If the Class 1 system is updated on a uniform basis, a number of smaller towns will drop out of the system and be replaced by more populous towns with presumably more extensive stretches of urban

land use development along their state highways. This relationship is reflected in the 1931 data where the ratio of Class 1 mileage to total state highway mileage declines significantly as one moves from larger to smaller towns in population size. To adjust for this factor, the ratio of Class 1 miles to total state highway miles was calculated for those towns which in 1931 had a population of 3,000 or more. After excluding certain outlier values, this aggregate ratio was 15.1%. This ratio is the proxy measure for density that is used to project changes in the number of Class 1 miles in the different population scenarios.

This proxy measure for density comes with two warnings. First, considering the significant variation in the ratios of individual towns, the projections of the Class 1 mileage for individual towns in the various scenarios is not meaningful. At best, the proxy measure provides an indication of the aggregate impact of possible changes in the Class 1 system. Second, as described, this proxy measure basically captures a portion of the results of the 1931 density survey. What the appropriate standard for measuring density should be in 2004 needs to be determined in a 2004 context.

(j) Redefinition scenarios – cost sharing formulas

Regarding the second step in the Class 1 redefinition process, the division of financial responsibility between the state and towns with respect to Class 1 highways, the study analyzes two scenarios. The first scenario assumes no change in the current division of financial responsibility. Under this scenario:

(1) **Annual maintenance** – Towns are 100% financially responsible for annual maintenance of their Class 1 segments,

(2) **Town Highway Aid** - Class 1 towns, however, do currently receive $10,643 per mile of Class 1 highway in undesignated annual funds as part of their annual Town Highway Aid. Existing Class 1 towns that drop out of the system would no longer be responsible for annual maintenance but would lose the annual Town Highway Aid allocated on the former Class 1 mileage. New towns added to the system would assume responsibility for annual maintenance and would receive a Class 1 allocation of Town Highway Aid.

(3) **Surface maintenance (paving)** – The state is 100% responsible for periodic surface maintenance of Class 1 highways. Since the study is limited to highway segments that are currently classified as either state highway or Class 1 and the state is 100% responsible for surface maintenance on both, any redefinition of the Class 1 system that leaves the state's responsibility at 100% would have no net impact on either the state or towns.

(4) **Reconstruction** – Towns are responsible for 10% of the costs of reconstruction of Class 1 segments. Existing Class 1 towns which drop out of the system would not be responsible for this 10% match while new towns added to the system would assume this 10% match responsibility.

The second scenario is designed to illustrate the broad range of options available. In this scenario: (1) towns' local match requirement for Class 1 paving is increased from 0% to 10%, (2) towns' local match requirement for Class 1 reconstruction is lowered from 10% to 5% and (3) the state's Town Highway Aid allocated to Class 1 roads is reduced from 82.8% to 70% of the annual maintenance cost of an average state highway mile.

(k) Redefinition scenarios - projections

Attachment #2 shows the town by town and Class 1 mileage breakdown with the population parameter at 3,000. For each town, "total Class 1 miles" is the greater of (1) the town's existing Class 1 miles and (2) 15.1% of the state highway mileage (including Class 1 mileage) within the town. Attachment #3 provides the same breakdown on the same basis with the population parameter at 5,000.

The impact of the two cost sharing scenarios on the two population groups is presented in the tables below which are labeled 3000-1 and 3000-2; and 5000-1 and 5000-2. The tables are from the perspective of the state so a plus sign in the "Net change' column means a net increase in state costs and a minus sign a net reduction in state costs. Reverse the signs and the figures represent the net aggregate financial impact on all towns affected by the redefinition of the system, which includes towns dropping out of the system as well as new towns being added to the system. "Related state highway miles" is simply the net highway mileage which is (1) converted from state highway to Class 1 status when the scenario results in an expansion of the Class 1 system above the current total of 134.5 miles or (2) converted from Class 1 to state highway when the scenario results in a contraction of the Class 1 system below the current total.

In scenarios 3000-1 and 5000-1 which apply the current cost sharing rules, all of the figures relate back to the cost per mile figures in table 1. For example, the "Net change" in state highway paving and Class 1 paving exactly offset each other while the difference between the "Net change" in state highway annual maintenance and Class 1 Town Highway Aid equals the $2,216 per mile difference in these cost items multiplied by the net change in total Class 1 mileage.

If the Class 1 system were limited to towns with a population of 3,000 or more, the total Class 1 system would expand from the current total of 134.5 to 195.0 miles using the density proxy measure. A total of 56 towns would have Class 1 highways compared to the current total of 45. The composition of the Class 1 towns would be as follows:

Table 5 - Class 1 system - 3,000 population scenario, group composition	
Total number of towns in the redefined system	56
Number of existing Class 1 towns in the redefined system	33
Number of new towns in the redefined system	23
Number of existing Class 1 towns dropped from the system	12

The net financial impact of the different cost sharing scenarios is presented in tables 6 and 7 below. In scenario 3000-1 in which the current cost sharing rules are applied, the net impact on the state would be a reduction in total costs in the range of $1.1 million per year. In scenario 3000-2 in which all three cost sharing variables - Class 1 Town Highway Aid, Class 1 paving and Class 1 reconstruction – are changed, the net impact on the state would be a reduction in total costs in the range of $350,000 per year.

Table 6 - Scenario 3000-1 Current cost sharing rules	Current system	As redefined	Net change
Total Class 1 miles	134.548	194.974	60.426
Related state highway miles	60.426	0.000	-60.426
State highway annual maintenance	776,777	0	-776,777
State highway paving	302,130	0	-302,130
State highway reconstruction	1,963,846	0	-1,963,846
Class 1 Town Highway Aid	1,431,464	2,074,340	642,876
Class 1 paving	672,740	974,870	302,130
Class 1 Reconstruction	2,186,405	3,168,328	981,923
Total	7,333,362	6,217,538	-1,115,824

Table 7 - Scenario 3000-2 Adjusted cost sharing rules	Current system	As redefined	Net change
Total Class 1 miles	134.548	194.974	60.426
Related state highway miles	60.426	0.000	-60.426
State highway annual maintenance	776,777	0	-776,777
State highway paving	302,130	0	-302,130
State highway reconstruction	1,963,846	0	-1,963,846
Class 1 Town Highway Aid	1,431,464	1,754,474	323,010
Class 1 paving	672,740	487,435	-185,305
Class 1 Reconstruction	2,186,405	4,752,492	2,566,087
Total	7,333,362	6,994,401	-338,961

If the Class 1 system were limited to towns with a population of 5,000 or more, the total Class 1 system would contract from the current level of 134.5 to 115.8 miles using the density proxy measure. A total of 27 towns would have Class 1 highways compared to the current total of 45. The composition of the Class 1 towns would be as follows:

Table 8 - Class 1 system - 5,000 population scenario, group composition	
Total number of towns in the redefined system	27
Number of existing Class 1 towns in the redefined system	20
Number of new towns in the redefined system	7
Number of existing Class 1 towns dropped from the system	25

The net financial impact of the cost-sharing scenarios is presented in tables 9 and 10 below. In scenario 5000-1 in which the current cost sharing rules are applied, the net impact on the state would be an increase in total costs in the range of $350,000 per year. In scenario 5000-2 in which all three cost-sharing variables are changed, the net impact on the state would be an increase in total costs in the range of $800,000 per year.

Table 8 - Scenario 5000-1 Current cost sharing rules	Current system	As redefined	Net change
Total Class 1 miles	134.548	115.286	-19.262
Related state highway miles	0.000	19.262	19.262
State highway annual maintenance	0	247,610	247,610
State highway paving	0	96,309	96,309
State highway reconstruction	0	626,006	626,006
Class 1 Town Highway Aid	1,431,464	1,226,537	-204,927
Class 1 paving	672,740	576,431	-96,309
Class 1 Reconstruction	2,186,405	1,873,402	-313,003
Total	4,290,609	4,646,295	355,686

Table 8 - Scenario 5000-2 Adjusted cost sharing rules	Current system	As redefined	Net change
Total Class 1 miles	134.548	115.286	-19.262
Related state highway miles	0.000	19.262	19.262
State highway annual maintenance	0	247,610	247,610
State highway paving	0	96,309	96,309
State highway reconstruction	0	626,006	626,006
Class 1 Town Highway Aid	1,431,464	1,037,404	-394,060
Class 1 paving	672,740	288,216	-384,524
Class 1 Reconstruction	2,186,405	2,810,103	623,698
Total	4,290,609	5,105,646	815,037

(l) Sensitivity analysis

These cost projections are relatively sensitive to the value assigned to the density proxy measure. Since the Class 1 system involves the shifting of a portion of state highway costs from the state to towns, any increase in the total number of Class 1 miles has the net effect of reducing the state's costs. In the projections, increasing the proxy density measure has the effect of increasing the number of Class 1 miles so it has the same net effect of reducing the state's costs.

In the scenario involving towns with a population of 3,000 or more, every 1% change in the density percentage changes the projection of total Class 1 miles by an average of 8 miles. The financial impact varies between the scenarios. In scenario 3000-1, increasing the density percentage has the effect of increasing the net reduction in state costs by an average of $150,000 per percentage point while decreasing the density percentage has the reverse effect. In scenario 3000-2, the impact is $115,000 per percentage point.

In the scenario involving towns with a population of 5,000 or more the impacts are smaller. Every 1% change in the density percentage changes the projection of total Class 1 miles by an average of 3.3 miles. In scenario 5000-1, increasing the density percentage has the effect of reducing the net increase in state costs by an average of $60,000 while decreasing the density percentage has the reverse effect. In scenario 5000-2 the impact is $50,000 per percentage point.

It should be emphasized that increasing or decreasing the density percentage is not a policy variable. The density percentage is simply a projection of what the end result of an accurate on-the-ground density survey may be. These figures emphasize the rough nature of the projections. The projections convey a sense of the financial magnitudes involved but no more.

(m) Conclusions

The concept of a Class 1 system has two distinct rationales. One rationale is simply cost sharing, the idea that the state and towns should share the cost of state highways through built up town centers. The other rationale has a functional basis. When towns reach a certain size, they acquire the expertise and, more importantly, the self interest to exert more control over their state highway "Main Streets." Larger towns have an interest in maintaining these highways differently than the state. Even if cost sharing is the dominant rationale for the existence of a Class 1 system, it still makes sense to structure the system to accommodate the functional interests of towns.

As shown in the projections, from the state's perspective, a redefinition of the Class 1 system would not necessarily have a substantial net fiscal impact. Any redefinition of the Class 1 system that is applied on a uniform basis, however, will have a net financial impact on a rather large number of towns. Returning to the table 1 estimates of annual per mile highway costs, the key cost figure at issue is the $50,355 estimate of the annual cost of 1 mile of state highway, of which $12,855 is an annual out of pocket cash expense and $37,500 is an annual accrued liability for future paving and reconstruction.

Financially the Class 1 system involves a division of this total cost between the state and town. There are any number of possible cost sharing variations, but in any analysis the out of pocket cash versus accrued liability nature of the cost variables should be considered. Key life cycle maintenance aside, the towns arguably have a stronger interest than the state in determining what level of maintenance, and particularly winter maintenance, should be performed on their Class 1 segments and towns are arguably in a better position than the state to determine the most efficient way to perform such maintenance. On the other hand, the state is arguably in a better position than any individual town to plan and make the long term budget allocation decisions required to ensure that Class 1 paving and reconstruction projects are performed on a timely basis. These factors suggest that towns should bear a larger relative share of annual maintenance costs while the state bear a larger relative share of paving and reconstruction costs. If the financial cost sharing rules were being redefined for the existing Class 1 system, it might be possible to adjust the formulas with a transition period that overall would have a modest impact.

Greatly complicating the analysis here, however, is the prospect that any redefinition of the system on a uniform basis will likely bring into the system a relatively large number of new towns. The long term health of the system depends upon a structure of incentives and cost sharing rules that reflect the relative strengths and interests of the state and towns. To the extent an optimum solution creates short term adjustment problems, a multi-year transition period may be called for. Considering the large number of new towns that may be included in a redefined system, these short term adjustment problems could be financial or operational in nature.

In short, as forewarned, the information and scenarios presented in this study provide a rough road map for consideration of this issue but there are considerable details that need to be added before

this map can function as a reliable guide to the consequences of any restructuring of the Class 1 system.

VI Maine initiative

This study did not survey the local share rules of other states but Maine is considering a major overhaul of its rules and the unique approach being proposed bears mentioning to once again emphasize the broad scope of options available.[10]

The Maine initiative is limited to projects on state owned arterial and major collector highways (comparable to Vermont's state highways including Class 1 roads). At the first level of the proposed system, the state would pay 100% of the costs of the "core" project which is basically the improvements made from curb to curb or "ditch to ditch". At the second level of the system, a local match is required for all "amenities" added to the project, the addition of which is in the discretion of the municipality. The size of the local match depends on the nature of the amenity. The proposal includes a schedule of state / local cost shares for various amenities, ranging from 90% state / 10% local for the replacement of existing sidewalks to 20% state / 80% local for "aesthetic" curbing.

VII Town Highway Aid formula

(a) "Regional throughways"

The remaining theme repeated in various forms at the public hearings on local match requirements concerns the state's formula for distributing Town Highway Aid. Town Highway Aid is a block, "no-strings" grant program to towns which, under the current system, is solely based on the number of miles of Class 1, Class 2 and Class 3 highways in a town in proportion to the total mileage for each class in the state. At the public hearings, a number of witnesses argued that using road mileage as the sole factor in distributing aid ignored other key factors that drive town highway costs which vary from town to town. Two factors in particular were mentioned.

One factor was regional traffic on local town roads. The distinction here is between purely town traffic on town roads and "extra-town" or "regional" traffic on town roads. A hypothetical example would be a town road that provides a convenient link between a factory and the interstate. The factory is not in the town so the town does not benefit from its property value but because the local town road provides a convenient through route between the factory and the interstate, the town has to bear the cost of the heavy truck traffic on the town road.

Several variations of this hypothetical were described at the public hearings. The argument that these situations are unfair is grounded on the core principle of the town highway system, namely that towns are responsible for local traffic on local roads and for regional connectors that allow town citizens access to other towns and vice-versa. A vibrant town center that serves as a regional destination imposes extra highway maintenance costs on a town, but being a regional destination, the higher property values in the town provide the means to cover the higher costs.

In special situations, however, a town highway, because of its convenient location, can end up functioning as a regional throughway for traffic whose source and destination are both outside the town. Because both the source and destination of the traffic are outside the town, the town is forced to bear all the costs of the traffic without being able to capture any of its related benefits in the form

[10] See "Maine Townsman", December 2003, pg. 9.

of higher property values or increased commercial activity. In fact, to the extent the town highway functions as a busy regional through road, the added traffic could easily have a negative impact on town property values.

Under the state highway system, standards exist for determining when the regional significance of a highway rises to the level as to call for the regionalization of its costs via state ownership. It is apparent, however, that between the two extremes of local roads carrying purely local traffic and state and regionally significant highways, there is a broad range of hybrid situations which, while they do not qualify as state highways, neither do they fit into the strictly town related traffic model of the town highway system.

While such hybrid situations are easy to describe, devising a system to identify them in practice is a whole different question. Traffic count data describes how intensively a road is used but usually does not describe the local or regional nature of the traffic. On the one hand, more densely populated towns have town roads with high traffic volumes that are still primarily local. On the other hand, regional through traffic on a rural town road may not be significant in an absolute sense, but relative to the low local traffic base, account for a disproportionate share of the wear and tear on the road. Town highways that function as regional throughways merit some form of expanded cost sharing according to the principles which underlie the state and town highway systems; but the problem lies in devising a neutral, objective, reliable, updateable and affordable system for identifying such situations on a statewide basis.

(b) Town bridges

The second factor mentioned in the hearings as a key driver of town highway costs that is not reflected in the Town Highway Aid formula is the number of bridges in a town. Annual and other periodic bridge maintenance is obviously an important component of town highway budgets. Under the current system, towns A and B with the same number of Class 1-3 miles receive the same amount in Town Highway Aid even though town B may have three times as many bridges as town A.

A possible counterargument here is that town B's needs are addressed in the town bridge and structures programs. While these programs provide critical assistance to towns with respect to bridges and culverts, they do require a local match; and bridges and culverts per foot of roadway on or over them are very expensive capital assets. A town with a lot of streams running through it is simply going to confront significantly higher costs than a town with few streams running through it.

Besides the issue of equity in the Town Highway Aid formulas, there is also an important issue of underlying state policy. The state, using the state's federal funds, typically bears 90-95% of the cost of reconstruction of qualifying town highway bridges. The state has a keen interest in encouraging towns to perform the annual and periodic maintenance on their bridges that will maximize their useful life. Towns, through their local match requirements, also have an interest in maximizing the useful life of their bridges, but when town B receives the same aid as town A even though it has 3x the number of bridges, the only way town B can finance this ongoing maintenance effort is through a permanent "bridge" premium in its property taxes. A further consideration is that short bridge spans (mostly culvert structures) are excluded from the federal bridge program and are solely the responsibility of towns (although eligible for grants under the town structures program). Given this structure of financing, there is a real risk that towns may find it easier to stretch their aid and

property taxes by foregoing life extending maintenance on bridges eligible for state and federal reconstruction funding.

In contrast to "regional throughways", sufficient data exists on federally eligible town bridges to incorporate them as a factor in the Town Highway Aid formula. Three issues would have to be addressed. One is the appropriate measure to use: number of bridges, square footage of bridge deck, bridge deck square footage times traffic use or some combination of these. The second issue would be the appropriate weighting of the measure in the aid formula. The relative life cycle costs of a mile of town highway versus a mile of town highway including a typical town bridge would be relevant in determining the appropriate weighting. The third issue would the incentives and disincentives created by the aid system with respect to encouraging towns to use their aid funds to perform the work that minimizes the long term costs to the state of programs that assist towns in town highway and bridge reconstruction projects.

Local Match Study - Attachment 1 (page 1 of 3)					
Total Vermont population				359,611	608,827
Totals		134.5	1,563.1	286,330	496,554
Town	**County**	**Class 1 Miles**	**State Highway Miles**	**1930 Census**	**2000 Census**
Bristol	Addison	1.2	13.4	1,832	3,788
Ferrisburg	Addison		7.8	1,285	2,657
Middlebury	Addison	3.4	16.8	2,938	8,183
Monkton	Addison		0.0	683	1,759
New Haven	Addison		14.9	964	1,666
Starksboro	Addison		12.1	687	1,898
Vergennes	Addison	2.9	0.0	1,705	2,741
Arlington	Bennington		14.0	1,441	2,397
Bennington	Bennington	6.1	19.9	10,628	15,737
Dorset	Bennington		13.7	1,120	2,036
Manchester	Bennington	3.8	19.4	2,004	4,180
Pownal	Bennington		12.7	1,425	3,560
Readsboro	Bennington	0.5	10.0	1,043	809
Shaftsbury	Bennington		15.8	1,631	3,767
Barnet	Caledonia		21.2	2,604	1,690
Burke	Caledonia		10.0	1,016	1,571
Danville	Caledonia		12.8	1,600	2,211
Hardwick	Caledonia	1.5	16.1	2,720	3,174
Lyndon	Caledonia	2.0	23.0	3,285	5,448
St. Johnsbury	Caledonia	4.7	28.6	9,696	7,571
Burlington	Chittenden	7.1	0.2	24,789	38,889
Charlotte	Chittenden		6.6	1,089	3,569
Colchester	Chittenden		22.9	2,638	16,986
Essex	Chittenden	4.0	22.3	2,876	18,626
Hinesburg	Chittenden		7.2	1,019	4,340
Huntington	Chittenden		0.0	621	1,861
Jericho	Chittenden		6.7	1,091	5,015
Milton	Chittenden		18.1	1,663	9,479
Richmond	Chittenden		14.3	1,315	4,090
Shelburne	Chittenden		6.5	1,006	6,944
South Burlington	Chittenden	2.3	17.0	1,203	15,814
Underhill	Chittenden		4.9	781	2,980
Westford	Chittenden		9.4	698	2,086
Williston	Chittenden		18.6	961	7,650
Winooski	Chittenden	1.8	1.3	5,308	6,561
Brighton	Essex	1.7	15.0	2,002	1,260
Enosburg	Franklin	2.4	7.2	2,093	2,788
Fairfax	Franklin		17.4	1,249	3,765
Fairfield	Franklin		10.3	1,541	1,800
Georgia	Franklin		17.6	1,090	4,375
Highgate	Franklin		22.7	1,574	3,397
Richford	Franklin	2.8	10.0	2,544	2,321
Sheldon	Franklin		15.8	1,563	1,990
St. Albans City	Franklin	4.3	0.1	8,020	7,650
St. Albans Town	Franklin		27.2	1,691	5,086
Swanton	Franklin	2.7	27.8	3,433	6,203

Local Match Study - Attachment 1 (page 2 of 3)					
Town	**County**	**Class 1 Miles**	**State Highway Miles**	**1930 Census**	**2000 Census**
Alburg	Grand Isle		17.8	1,609	1,952
Grand Isle	Grand Isle		10.2	857	1,955
South Hero	Grand Isle		7.4	641	1,696
Cambridge	Lamoille		29.0	1,402	3,186
Hyde Park	Lamoille		9.5	1,165	2,847
Johnson	Lamoille		11.4	1,378	3,274
Morristown / Morrisville	Lamoille	2.8	13.3	2,939	5,139
Stowe	Lamoille	1.5	13.9	1,654	4,339
Bradford	Orange		18.2	1,235	2,619
Newbury	Orange		21.8	1,744	1,955
Randolph	Orange	2.5	29.9	3,166	4,853
Thetford	Orange		26.3	1,052	2,617
Williamstown	Orange		17.6	1,608	3,225
Barton	Orleans	2.3	21.4	3,469	2,780
Derby	Orleans	1.4	25.5	2,165	4,604
Newport City	Orleans	6.6	1.3	5,094	5,005
Newport Town	Orleans		10.6	1,193	1,511
Troy	Orleans	1.0	12.3	1,898	1,564
Brandon	Rutland	1.9	13.0	2,891	3,917
Castletown	Rutland	1.1	21.6	1,794	4,367
Clarendon	Rutland		14.5	883	2,811
Fair Haven	Rutland	2.8	10.6	2,614	2,928
Pittsford	Rutland		10.4	2,332	3,140
Poultney	Rutland	1.3	12.1	3,215	3,633
Proctor	Rutland	1.5	1.8	2,596	1,877
Rutland City	Rutland	6.0	0.0	17,315	17,292
Rutland Town	Rutland		10.6	1,387	4,038
Wallingford	Rutland		16.8	1,564	2,274
West Rutland	Rutland	1.9	9.9	3,421	2,535
Barre City	Washington	5.5	1.6	11,307	9,291
Barre Town	Washington		11.5	4,280	7,602
Berlin	Washington		25.8	992	2,864
Calais	Washington		6.9	811	1,529
East Montpelier	Washington		12.1	965	2,578
Middlesex	Washington		16.9	751	1,729
Montpelier	Washington	10.4	4.1	7,837	8,035
Moretown	Washington		12.3	888	1,653
Northfield	Washington	2.2	10.5	3,438	5,791
Waitsfield	Washington		7.8	723	1,659
Warren	Washington		6.3	486	1,681
Waterbury	Washington	1.4	18.5	4,045	4,915

Local Match Study - Attachment 1 (page 3 of 3)					
Town	**County**	**Class 1 Miles**	**State Highway Miles**	**1930 Census**	**2000 Census**
Brattleboro	Windham	6.3	22.2	9,816	12,005
Dummerston	Windham		16.3	604	1,915
Guilford	Windham		10.7	663	2,046
Londonderry	Windham		15.2	799	1,709
Newfane	Windham		5.7	662	1,680
Putney	Windham		11.5	835	2,634
Rockingham	Windham	1.5	23.5	5,302	5,309
Vernon	Windham		11.6	609	2,141
Westminster	Windham		18.5	1,324	3,210
Wilmington	Windham		14.7	1,171	2,225
Bethel	Windsor	0.9	14.3	1,650	1,968
Chester	Windsor	2.6	19.1	1,666	3,044
Hartford	Windsor	1.7	45.5	4,888	10,367
Hartland	Windsor		24.7	1,266	3,223
Ludlow	Windsor	2.3	11.8	2,305	2,449
Norwich	Windsor		18.3	1,371	3,544
Royalton	Windsor		23.0	1,491	2,603
Springfield	Windsor	2.9	28.1	6,955	9,078
Weatherfield	Windsor		31.0	1,156	2,788
Windsor	Windsor	4.1	16.6	4,359	3,756
Woodstock	Windsor	2.9	17.9	2,469	3,232

Attachment 2 - Class 1 Scenario - Town population >= 3,000					Density ratio	15.1%
Totals		111.6	83.4	195.0		386,261
Town	**County**	**Existing Class 1 Miles**	**"New" Class 1 Miles**	**Total Class 1 Miles**	**Revised State Highway Miles**	**2000 Census**
Bristol	Addison	1.2	1.0	2.2	12.4	3,788
Middlebury	Addison	3.4	0.0	3.4	16.8	8,183
Bennington	Bennington	6.1	0.0	6.1	19.9	15,737
Manchester	Bennington	3.8	0.0	3.8	19.4	4,180
Pownal	Bennington		1.9	1.9	10.8	3,560
Shaftsbury	Bennington		2.4	2.4	13.4	3,767
Hardwick	Caledonia	1.5	1.2	2.7	15.0	3,174
Lyndon	Caledonia	2.0	1.8	3.8	21.3	5,448
St. Johnsbury	Caledonia	4.7	0.3	5.0	28.3	7,571
Burlington	Chittenden	7.1	0.0	7.1	0.2	38,889
Charlotte	Chittenden		1.0	1.0	5.6	3,569
Colchester	Chittenden		3.5	3.5	19.4	16,986
Essex	Chittenden	4.0	0.0	4.0	22.3	18,626
Hinesburg	Chittenden		1.1	1.1	6.1	4,340
Jericho	Chittenden		1.0	1.0	5.7	5,015
Milton	Chittenden		2.7	2.7	15.4	9,479
Richmond	Chittenden		2.2	2.2	12.2	4,090
Shelburne	Chittenden		1.0	1.0	5.6	6,944
South Burlington	Chittenden	2.3	0.6	2.9	16.4	15,814
Williston	Chittenden		2.8	2.8	15.8	7,650
Winooski	Chittenden	1.8	0.0	1.8	1.3	6,561
Fairfax	Franklin		2.6	2.6	14.8	3,765
Georgia	Franklin		2.7	2.7	15.0	4,375
Highgate	Franklin		3.4	3.4	19.3	3,397
St. Albans City	Franklin	4.3	0.0	4.3	0.1	7,650
St. Albans Town	Franklin		4.1	4.1	23.1	5,086
Swanton	Franklin	2.7	1.9	4.6	25.9	6,203
Cambridge	Lamoille		4.4	4.4	24.7	3,186
Johnson	Lamoille		1.7	1.7	9.6	3,274
Morristown / Morrisville	Lamoille	2.8	0.0	2.8	13.3	5,139
Stowe	Lamoille	1.5	0.8	2.3	13.1	4,339
Randolph	Orange	2.5	2.4	4.9	27.5	4,853
Williamstown	Orange		2.7	2.7	15.0	3,225
Derby	Orleans	1.4	2.6	4.1	22.8	4,604
Newport City	Orleans	6.6	0.0	6.6	1.3	5,005

Attachment 2- Class 1 Scenario - Town population >= 3,000 (page 2 of 2)						
Town	**County**	**Existing Class 1 Miles**	**"New" Class 1 Miles**	**Total Class 1 Miles**	**Revised State Highway Miles**	**2000 Census**
Brandon	Rutland	1.9	0.3	2.3	12.7	3,917
Castletown	Rutland	1.1	2.3	3.4	19.3	4,367
Pittsford	Rutland		1.6	1.6	8.9	3,140
Poultney	Rutland	1.3	0.7	2.0	11.4	3,633
Rutland City	Rutland	6.0	0.0	6.0	0.0	17,292
Rutland Town	Rutland		1.6	1.6	9.0	4,038
Barre City	Washington	5.5	0.0	5.5	1.6	9,291
Barre Town	Washington		1.7	1.7	9.7	7,602
Montpelier	Washington	10.4	0.0	10.4	4.1	8,035
Northfield	Washington	2.2	0.0	2.2	10.5	5,791
Waterbury	Washington	1.4	1.6	3.0	16.9	4,915
Brattleboro	Windham	6.3	0.0	6.3	22.2	12,005
Rockingham	Windham	1.5	2.3	3.8	21.2	5,309
Westminster	Windham		2.8	2.8	15.7	3,210
Chester	Windsor	2.6	0.7	3.3	18.4	3,044
Hartford	Windsor	1.7	5.4	7.1	40.1	10,367
Hartland	Windsor		3.7	3.7	21.0	3,223
Norwich	Windsor		2.8	2.8	15.6	3,544
Springfield	Windsor	2.9	1.8	4.7	26.3	9,078
Windsor	Windsor	4.1	0.0	4.1	16.6	3,756
Woodstock	Windsor	2.9	0.3	3.1	17.7	3,232

Attachment 3 - Class 1 Scenario - Town population >= 5,000					Density ratio	15.1%
Totals		84.4	30.9	115.3		276,756
Town	**County**	**Existing Class 1 Miles**	**"New" Class 1 Miles**	**Total Class 1 Miles**	**Revised State Highway Miles**	**2000 Census**
Middlebury	Addison	3.4	0.0	3.4	16.8	8,183
Bennington	Bennington	6.1	0.0	6.1	19.9	15,737
Lyndon	Caledonia	2.0	1.8	3.8	21.3	5,448
St. Johnsbury	Caledonia	4.7	0.3	5.0	28.3	7,571
Burlington	Chittenden	7.1	0.0	7.1	0.2	38,889
Colchester	Chittenden		3.5	3.5	19.4	16,986
Essex	Chittenden	4.0	0.0	4.0	22.3	18,626
Jericho	Chittenden		1.0	1.0	5.7	5,015
Milton	Chittenden		2.7	2.7	15.4	9,479
Shelburne	Chittenden		1.0	1.0	5.6	6,944
South Burlington	Chittenden	2.3	0.6	2.9	16.4	15,814
Williston	Chittenden		2.8	2.8	15.8	7,650
Winooski	Chittenden	1.8	0.0	1.8	1.3	6,561
St. Albans City	Franklin	4.3	0.0	4.3	0.1	7,650
St. Albans Town	Franklin		4.1	4.1	23.1	5,086
Swanton	Franklin	2.7	1.9	4.6	25.9	6,203
Morristown / Morrisville	Lamoille	2.8	0.0	2.8	13.3	5,139
Newport City	Orleans	6.6	0.0	6.6	1.3	5,005
Rutland City	Rutland	6.0	0.0	6.0	0.0	17,292
Barre City	Washington	5.5	0.0	5.5	1.6	9,291
Barre Town	Washington		1.7	1.7	9.7	7,602
Montpelier	Washington	10.4	0.0	10.4	4.1	8,035
Northfield	Washington	2.2	0.0	2.2	10.5	5,791
Brattleboro	Windham	6.3	0.0	6.3	22.2	12,005
Rockingham	Windham	1.5	2.3	3.8	21.2	5,309
Hartford	Windsor	1.7	5.4	7.1	40.1	10,367
Springfield	Windsor	2.9	1.8	4.7	26.3	9,078

Study of Local Match Requirements
Attachment #4

Program Development Division
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MEMORANDUM

TO: Neil Schickner, Joint Fiscal Office

FROM: Samuel B. Lewis, Deputy Director

DATE: October 8, 2003

SUBJECT: Report of Public Hearings – Local Match Study

On September 22, 2003 and October 1, 2003, the Agency of Transportation conducted public hearings in accordance with Section 61 of Act 56 of the 2003-2004 session of the Vermont State Legislature. Section 61 required a study concerning local match to be done by the joint fiscal office in concert with the Agency of Administration, the League of Cities and Towns and the Agency of Transportation.

The first hearing was held in the City of Rutland and was attended by 20 people. Most represented either governing bodies, planning commissions or road foreman. The second hearing was held in the City of Montpelier and had only one attendee. That individual was a member of a town select board. At each hearing, an overview was presented of :

- The reasons for the hearing.
- Information about local match in terms of:
  - Programs that require local match
  - Amounts of local match
  - Exceptions to local match requirements
  - Examples of projects requiring local match

The following is a summery of the comments made by attendees.

<u>Rutland</u>

- The Class 1 Paving and Maintenance programs seem to work. The major reconstruction of Class 1 roads is the problem. Match should be assessed against the largest possible base. Match should be raised throughout the state and not just in the community.
- The road along Lake Bomoseen is used by non-town residents for recreational purposes at the state boat launch. The need for local match is unfair because of regional traffic usage.

- Maintenance needs on a Class 1 road in an urban area is an issue. Urban areas have more needs such as signals.
- Traffic is regional. Condition of roads causes inequities between communities. State Aid that is received does cover general maintenance.
- Match should not always be cash. Soft Match should be allowed such as the time of city employees. (Note: Federal Regulations limit local government to credits for property, funds or material).
- While having an inventory allows a lesser match percentage requirement, the distribution of funds for Class II programs negates that advantage by distributing funds equally among towns. Culvert program funds should not be distributed on basis of number of culverts but on basis of need.
- There is no standardized system for distribution of aid programs by districts.
- Need to use a new baseline for Class I program. 1930 Census should not be used. There can be a match but the formula has to be predictable.
- Formula is too old. (Depends on 1930 census). The formula should consider the impact of high traffic on a facility.
- The formula should not depend on the property tax base.
- When asked about appropriateness of local match in other programs, the consensus was that the match was fair. There was some concern that the costs of renting a temporary bridge was added to the local match requirement and that put an extra burden on the community.
- The issue of the amount of funds used outside of traditional transportation activities was raised.
- A request to put more funds in the District administered aid programs was made.
- The question was raised regarding why the Lake Champlain Grant Program did not deal directly with the towns and fix the road ditch problems which add to lake pollution.
- Could there be a formula that rewarded towns for making an effort to keep roads in good repair? The school formula reward towns that make an effort.
- The census may not be the best determinate of need. There are other factors.
- Miles of town roads should be worked into the formula. Extenuating circumstances such as the impact on local roads of logging activities on state lands should be considered
- US 7 and US4 are the interstate of the Western side of the state. The state should maintain the roads for the economic vitality of the region.

<u>Montpelier</u>

- 1930 census is not a fair basis for determining Class 1 roads.
- A formula based upon mileage alone isn't fair as the traffic may not be local but regional in nature. Additionally, the traffic may have variations in amount and type (heavy trucks).
- Traffic may serve a communities economic needs and thus be a benefit.
- Bridge and Highway match requirements (other that Class 1) seem appropriate

<u>Some General Themes Regarding Local Match</u>

- Use of the 1930 census as a basis for inclusion in the Class 1 system is not appropriate.
- Urban and rural towns have differing abilities to support local match.
- Urban and rural Class 1 roads have differing levels of need and use (volume and type).
- Regional pass-through traffic should be accounted for in determining the responsibility of a town in local match

- Broad based tax capacity should be considered rather than depending upon the property wealth of a town.
- Impacts of Class 1 roads can be beneficial (economic benefits).
- In general, the match requirements for programs other than Class 1 roads seem to be acceptable.