

Transportation Management Associations: Exploring Public-Private Partnerships to Enhance Travel Behaviour Change Programs

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1 Overview

Past research has established an important role for private-sector organisations in promoting and sustaining travel behaviour change efforts. For example, employers with strong travel plans can positively impact the commute patterns of their workers by offering flexible work schedules, discounted transit passes, etc. Developers integrating pedestrian and public transport friendly site design elements set the stage for non-drive-alone travel patterns down the line.

The set of motivations which drive individual travel behaviour decisions, however, are quite distinct from the set of motivations which compel employers, property managers, developers, and others to embrace the development and implementation of green travel plans. Exploring alternatives for understanding and harnessing the potential for positive contributions from private-sector stakeholders is critical to gaining enhanced involvement and commitment from these groups.

Throughout the U.S., Canada, and Europe, the development of public-private partnership organisations has promoted enhanced private-sector involvement in transportation programs. Groups called Transportation Management Associations (TMAs) are involved in transportation issues in many different ways.

TMAs emerged in the US in the early 1980s as public-private partnership organisations established to design and implement collaborative transportation management strategies addressing traffic congestion, mobility, and/or air quality problems in specific geographic areas. Today, approximately 150 TMAs are in operation, primarily in the US and Canada. Recently, start-up TMAs are also in the development stages in Great Britain (Dyce Area, Scotland) and New Zealand (North Harbour Industrial Area, North Shore City).

In addition to developing and coordinating transportation management strategies, TMAs bring a variety of stakeholders together to jointly address transportation challenges – and to give stakeholders a unified voice in prioritising and advocating for enhanced transportation investments and coordination in their area. In many instances, TMAs represent the only organisations providing full coverage of a geographic area with common transportation challenges (such as a key transportation corridor crossing political jurisdictions), and/or the only forum for full coordination of public and private transportation programs in an area.

The appeal of TMAs lies in their synergy between multiple organisations and individuals. Together, they have a greater chance of addressing difficult transportation challenges collectively than any one government agency, employer, developer or resident could accomplish alone. Public sector organisations responsible for transportation in an area can provide increased transportation services, making travel options more available. However, the demand for transportation in an area – where people go, when they go, and how they get there – is greatly influenced by the decisions of businesses and institutions (setting employment arrival/departure times, parking pricing, event scheduling, etc.).

TMAs operate in a wide range of settings, working with different stakeholders and addressing a variety of transportation-related issues. As a result, there is no single or standardised model for how a TMA should be structured organisationally, or what types of programs a TMA implements. Instead, the value of the TMA concept is its flexibility to adapt to local conditions and offer the best fit for each situation.

TMAs, however, are not a magic solution to access and mobility issues, and are not appropriate in every setting. While urban form and social / cultural similarities between Australia-New Zealand and the US, Canada, and Great Britain suggest that the core concept of a TMA could be appealing to public and private stakeholders in all of these areas, additional research is needed to better understand the potential for TMAs to contribute positively to the success of travel behaviour change programs.

This paper is intended to provide basic background information on the TMA experience in North America, and to present the lessons learned on TMA strengths and weaknesses from the author's experience working with TMAs in a wide array of settings throughout North America.

2 History of TMAs

The first TMAs emerged in the United States in the early 1980s. The U.S. Urban Mass Transportation Administration (UMTA), the agency now called the Federal Transit Administration, provided initial grants to foster cooperative business partnerships to implement TDM programs. These initial grants funded the start-up and early operation of a handful of early TMAs, such as the Baltimore-Washington International Airport (BWI) TMA (Maryland), The Rideshare Company (Connecticut), the Bishop Ranch Transportation Association (California), the Bellevue TMA (Washington), and the Greater Princeton TMA (New Jersey). It is unclear which organisation emerged as the "first" TMA. However, each of these early groups involved a collection of private businesses working collectively to reduce the negative impacts of congestion in their areas.

For example, the Greater Princeton TMA (now called the Greater Mercer TMA) was initially formed to address private sector concerns over the ability of local roadways to accommodate planned development in the area. Business leaders recognized that expanded roadways would not fully address the problem, and a study conducted by a regional agency in 1981 recommended forming a public-private partnership. The TMA was established as an independent, non-profit organisation in 1984, utilizing UMTA grant funding and support from area corporations. As TMAs were a new concept, the initial years of operation involved significant education on the role of private-sector organisations in helping to manage travel demand and soliciting support for the TMA. As the TMA's website notes:

"Attracting support from companies such as Merrill Lynch, Bristol-Myers Squibb, ETC, Mobil and Princeton University, the TMA soon began to achieve the critical mass necessary to affect change. Some of our first tasks were to help develop a parking management program at the Princeton Junction Station, to establish vanpools from the station and to help set up a rideshare program at Educational Testing Service (ETS)."
-- www.gmtma.org

2.1 Canada

The early 2000s saw the formation of the first TMAs in Canada. In 2001, public and private sector stakeholders in the York Region (northwest of Toronto, Ontario) formed the Black Creek Regional TMA (now called the Smart Commute North Toronto, Vaughn). Founding members of the TMA included York University, Seneca@York, Knoll, City of Toronto, City of Vaughan, York Region, and others. Now part of the Smart Commute Association (the regional TDM partnership for the Greater Toronto Area and Hamilton), the TMA includes new

members such as Transport Canada, Toronto ATMA Spheric Fund, Universal Workers Union Local 183, CH2M Hill, ING DIRECT, and others. The TMA serves 72,000 employees and students.

2.2 Great Britain

While a handful of informal transportation partnerships have existed throughout Great Britain, the Dyce TMA is the first formal TMA. The North East of Scotland Transport Partnership (NESTRANS) led the formation of the TMA, which now includes corporate partners such as the BP Exploration Operating Company, Halliburton, Baker Hughes, AkerKvaerner, and Dril-Quip. As the TMA's website describes, "We are a group of companies who have banded together to form a 'stand alone' company to improve conditions for all modes of transport for the community and commuters of Dyce and to widen the choice of modes of access to all areas of Dyce... The Dyce TMA will:

- Provide guidance on transportation issues to the whole community of Dyce, Aberdeenshire.
- Comment on transportation issues for the Dyce industrial community and Dyce residents.
- Provide travel planning guidance for the companies of Dyce and with the support of the companies of Dyce.
- Manage a lift sharing data base.
- Negotiate with public transport operators, both rail and bus, for improved access.
- Introduce other initiatives as may be thought necessary to improve the travelling environment for community and commuter."

– Dyce TMA, www.dyceTMA.org

3 TMA organisational structures and programs

TMA's operate in a wide range of settings, working with different stakeholders and addressing different transportation issues. As a result, there is no single or standardised model for how a TMA should be structured organizationally, or what types of programs a TMA implements. Instead, the value of the TMA concept is its flexibility to adapt to local conditions and offer the best fit for each situation.

Despite this diversity, it is still possible to outline a general framework of key TMA characteristics. Additionally, recent surveys of TMA's in North America provide insights on the prevalence of a variety of TMA traits.

Referencing data from the results of the TMA surveys, and from UrbanTrans' experience working with over 60 TMA's in the U.S. and Canada, this section outlines a range of key TMA characteristics, from TMA organisational structures to program delivery.

3.1 Organisational structures

This section covers the key elements of TMA organisational structure, including:

- Institutional arrangements & partnerships
- Funding
- Geographic service areas
- TMA membership
- Staffing

3.1.1 Institutional arrangements & partnerships

TMA's exist in a variety of institutional settings, from informal networks to stand-alone, independent organisations:

- Informal Partnerships. While not typically referred to as “TMAs,” a variety of more information partnership options are available to achieve some of the goals of a more fully formed TMA. Examples of information partnerships include:
 - Employee Transportation Coordinator Networks: Representatives from several employers in an area may meet periodically to share best practices or coordinate joint programs.
 - Informal Committees or Task Forces: Business leaders and other area stakeholders may meet periodically to discuss needed transportation improvements, develop advocacy positions, coordinate program implementation, etc.
- Semi-Independent. A growing number of TMAs do not exist as fully stand-alone entities. Instead, they are formed as a program, division, or even equal partner or a larger group. Partner organisations can include:
 - Government Agencies: In some areas, public entities for a TMA-like program within transportation or other government departments. These groups often include a private-sector representation, and even funding support.
 - Business Associations: Of the most common institutional arrangements, many TMAs are part of a larger business association, such as a Chamber of Commerce or Business Improvement District.
 - Dual-Purpose Organisation: In some cases, TMAs partner with another organisation with a complementary mission, or with significant overlap among private-sector stakeholders. For example, the BWI Business Partnership in Baltimore, Maryland, pursues a joint transportation management and economic development mission.
- Independent / Incorporated. The most common format for a TMA is an independently incorporated non-profit organisation.

3.1.2 Funding

As non-governmental organisations, TMAs require revenue to fund day-to-day operations and to develop and implement services. There is no standard funding formula for TMAs. However, a majority of TMAs draw on multiple revenue sources. The 2003 TMA Survey found the following break-down of TMA revenue sources:

- 56% membership dues
- 48% federal grants
- 28% local grants
- 27% state grants
- 25% in-kind donations
- 19% service contracts
- 16% fees for services
- 9% developer funding agreements
- 7% business improvement districts

As the results above indicate, a majority of TMAs draw on dues from TMA members for funding. However, fewer and fewer TMAs rely on membership dues. In the 1993 TMA Survey, 20% of TMAs relied on membership dues for 100% of their funding. In 2000, the total was 5%. The percentage of total TMA funding drawn from membership dues also shrank from 47% in 1993 to 40% in 2003.

Membership dues offer advantages to TMAs in some cases. For a TMA’s members, paying annual dues can increase the sense of ownership in the TMA, and a larger degree of investment in its success. Additionally, membership dues are often structured based on size (i.e., number of employees, per square meter, etc.), so that the TMA can justify offering higher levels of service to larger members. However, collecting membership dues requires a high degree of administrative energy. Too often, TMAs which rely heavily on membership

dues spend time and energy recruiting new members and retaining existing members – which represents time not spent implementing transportation programs.

While some TMAs seem to be shifting away from heavy reliance on membership dues, another trend suggests that more and more TMAs are forging funding agreements with business improvement districts (BIDs). Also referred to as community improvement districts, downtown improvements districts, etc., these groups are funded by a special tax assessment within their geographic areas. While the nature of the assessment varies by area with the U.S. and Canada, the assessment is automatically generated each year, providing an on-going, sustainable source of revenue. As such, TMAs that are part of, or partnered with, improvement districts are able to tap into this revenue source.

3.1.3 Geographic service areas

A key strength of the TMA concept is the flexibility of the geographic boundaries established for service delivery. TMAs are not typically constrained by political boundaries, which sometimes are not contiguous with activity centres, corridors, or other areas with transportation issues or travel patterns in common. For example, at the Hartsfield-Jackson Atlanta International Airport in Georgia, the airport facility and the surrounding businesses (airline offices, hotels, rental car agencies, etc.) are located in an area that includes parts of two counties and several cities and towns. The 60,000 employees of the area represent a challenge too large for any one of these public agencies, yet too small to receive dedicated attention from regional or state governments. However, the Hartsfield Area TMA was able to establish a geographic service area at a scale appropriate to serving this travel market.

In general, TMAs tend to serve well-defined, easily-understood geographic areas. While the precise boundaries are not quite as critical, the area should be general recognized by people in an area. For example: “downtown,” “the airport area,” “the Highway 36 corridor,” etc.

Figure 1 below shows the percentage of TMAs serving different geographic areas:

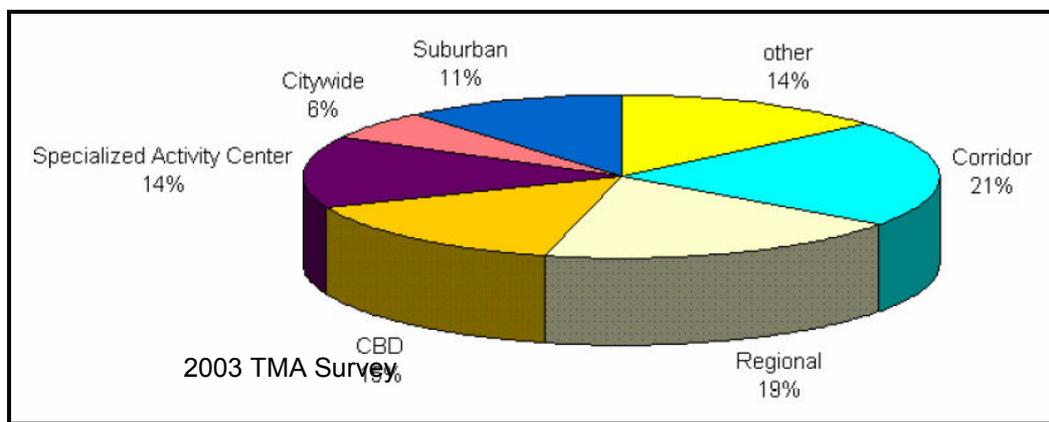


Figure 1: TMA service areas (NCTR, 2004)

3.1.4 TMA membership

TMAs are public-private partnerships, yet private-sector organizations typically represent the largest share of a TMA’s membership. The largest representation typically comes from area employers, whose transportation issues are often seen as the most opportunity for demand management programs in downtowns and other activity areas. As Table 1 below shows, representation by employers has slowly declined over the years, with more participation from developers and property owners.

TABLE 1: Comparison of membership composition

Member Group	1993	2003
Business Employers	72%	59%
Developers	10%	6%
Government	8%	10%
Chambers of Commerce	2%	--
Suppliers	2%	--
Property Owners	--	8%
Non-profit Organisations	--	6%
Residential or Community Association	--	2%
Individuals	--	<1%
Other	6%	9%

(NCTR, 2004)

3.1.5 Staffing

TMA's typically have a paid professional staff. As Table 2 below shows, the average TMA now has a larger staff, representative of TMA's continuing to mature and expand.

TABLE 2: Comparison of TMA staffing

Number of Staff	1993	2003
No Staff	--	5%
Volunteers	28%	4%
1 Person	43%	21%
2 Persons	8%	18%
3 Persons	12%	18%
>3 Persons	9%	32%

(NCTR, 2004)

3.2 Scope of TMA programs

Much like the diversity among TMA's in relation to organisational structure, the programs and services offered by TMA's vary. From the launch of the earliest TMA's in the mid-1980s, through the mid-1990s, a majority of TMA's were primarily involved in provided support services to employers – designing and assisting with the implementation of employee commute programs. With the repeal of the U.S. Employee Commute Options (ECO) regulations in 1995, however, TMA's have grown increasingly involved in a broader spectrum of programs. For example, as of 2003, nearly one-third of TMA's are responsible for the direct provision of shuttle transit services in their areas.

3.2.1 Sample mission & goals

Often developed during the TMA formation phase, a TMA's mission represents the best outline of the organisation's primary reason for being, as articulated by key stakeholders early. The section below offers five examples of TMA mission statements from throughout North America:

South Main Access & Mobility Center: Houston, TX

To support sustainable growth and quality of life in the Greater Texas Medical Center Area by developing and promoting coordinated public and private transportation improvements designed to enhance access and mobility, reduce congestion and improve air quality for employees, medical staff, patients, visitors, and students.

Lloyd District TMA: Portland, OR

To support and promote the economic vitality and livability of the Lloyd District through cooperative, business-supported programs promoting efficient, balanced transportation

systems and land use patterns.

Smart Commute North Toronto, Vaughan, Ontario

To work with public and private sectors to improve mobility and air quality within and around the North Toronto / Vaughan area by managing transportation demand; promoting the environmental and financial gains of using alternative modes of transportation; and advocating the transportation needs of the area.

Greater Redmond TMA: Redmond, Washington

Increase commuter mobility and efficient use of the transportation system through services, incentives, education, and the promotion of single occupancy vehicle alternatives to our members.

Greater Mercer Greater Mercer TMA: Mercer County, New Jersey

Greater Mercer Greater Mercer TMA is a non-profit partnership of the public and private sectors, dedicated to reducing traffic congestion and improving mobility in and around Mercer County by providing a variety of commuter programs and services.

3.2.2 Programs and services offered

Table 3 below provides an summary of the diverse programs and services offered by TMAs in North America. The table shows the percentage of TMAs offering different services to TMA members and/or non-members, using data from the 1993, 1998, and 2003 TMA surveys.

TABLE 3: TMA Programs and Services, 1993 - 2003

Service	Provided to members		Provided to non-members only		Provided to non-members and non-members		Provided to non-members at a higher rate		Not offered		
	1993	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003
ETC training	61	49	34	2	3	12	15	2	1	34	47
Rideshare matching	73	33	37	5	5	45	43	0	1	17	14
Rideshare promotion	--	55	--	5	--	33	--	1	--	6	--
Telecommuting assistance	--	--	31	--	2	--	18	--	2	--	47
Transit pass sales	39	--	--	--	--	--	--	--	--	--	--
Subsidized transit passes	--	18	35	5	2	9	14	0	2	68	47
Direct rideshare incentives	--	--	39	--	1	--	13	--	2	--	46
Shuttle/local transit provision	31	16	27	4	3	15	23	5	1	60	48
Direct shuttle service operation	--	--	15	--	1	--	11	--	2	--	71
Guaranteed Ride Home	67	56	51	5	2	13	22	2	3	22	22
Vanpool Services	78	33	35	4	3	21	28	0	0	43	34
Vanpool subsidy program	24	26	36	4	2	12	16	0	0	59	46
Regional/Local advocacy	96	57	41	4	1	28	32	1	0	10	26
Site design assistance	--	37	21	4	0	6	15	4	1	49	62
Trip reduction plan preparation	69	41	38	2	0	9	20	9	3	38	39
Parking service provision	--	23	18	4	0	2	9	2	0	67	73
Parking pricing and/or management	41	22	15	4	0	2	9	2	1	68	75
Promotional materials/newsletters	84	43	47	4	2	41	36	1	3	11	12
Promotional events	90	55	44	2	2	32	34	2	3	9	17
Tax benefit program assistance	--	--	38	--	3	--	22	--	1	--	36
Carshare program	--	--	13	--	1	--	11	--	0	--	75
Bicycle program	--	--	32	--	2	--	21	--	1	--	44
Other	29	--	23	--	0	--	6	--	2	--	69
Develop survey	67	--	--	--	--	--	--	--	--	--	--

(NCTR, 2004)

4 TMA strengths and weaknesses

With over 25 years in existence, the concept of TMAs has continually evolved to fit changing transportation needs and new market forces. The same breadth of experience also offers the opportunity for fairly extensive and time-tested assessments of the strengths and weaknesses of the TMA concept, as observed in a variety of different settings over many years. The following list of strengths and weaknesses would certainly not apply to any one TMA, but covers a the collective traits of TMAs in general.

4.1 Strengths

In terms of strengths, TMAs can...

- Provide a forum and an impetus for a diverse group of stakeholders to collectively prioritize transportation investments in a given area.
- Consolidate the private-sector “voice” on transportation issues relevant to their area. This is valuable for public-sector agencies, as they gain a single point of contact to discuss transport matters, and good for the private-sector, as their advocacy is strengthened by a unified voice.
- Leverage peer-to-peer business networking to enhance private-sector participation in transport solutions (e.g., a business leader makes a compelling case to a peer business leader that a green transport plan benefited their business).
- Can shift the mentality of private-sector entities, increasing their recognition that their decisions have an impact on travel behaviours, and that they can therefore be an effective part of the solution (e.g., allowing employees to “flex” arrival and departure times to better fit public transport schedules).
- Provide an ideally-sized geographic scale for problem-solving. TMAs typically represent areas larger than individual sites (allowing for economies of scale, sharing “best practices,” etc.), yet smaller than an entire city or region (leveraging sub-regional identities, focus on common problems, etc.).
- Remain flexible in terms of geographic boundaries. TMA boundaries are not limited by political jurisdictional boundaries, and this can be designed to cover “functional areas” based on transportation issues.
- Provide a forum for coordination of TDM strategies between organisations (e.g., neighbouring employers coordinating work shifts to reduce peak-oriented congestion on local streets).
- Allow for coordination of parking resources and parking management strategies between multiple properties.
- Provide more neutral, third-party ground for win-win solutions between public and private sectors (particularly for land development issues).
- Offer a conduit for implementing trip-reduction programs required as part of new property development trip generation mitigation agreements between developers and public jurisdictions.
- Generate revenue for transportation programs at local levels (such as a CBD) from non-traditional sources / groups that might not invest in less direct regional / state programs.
- Offer a credible organisation to receive and manage public funds.
- Provide program delivery efficiencies and economies of scale (i.e., where the incremental cost of expanding a program to more than one site is minimal).
- Provide a forum for information-sharing and capacity-building by employee transportation coordinators (ETCs).
- Be powerful innovation generators. TMAs often try new and innovative strategies due to the specific characteristics of their local environments. If these work, the potential exists to expand the innovation beyond the TMA area.
- Tailor strategies and target marketing efforts to fit area dynamics. This can avoid one-size-fits-all program development and marketing.

- Provide an on-going implementation entity needed for many travel behaviour change programs, especially and medium to large land development projects.

4.2 Weaknesses

In terms of weaknesses, TMAs sometimes...

- Become too focused on demand management as a stand-alone approach, missing out on important linkages to other transport strategies. In some regions, this focus can enhance the tendency to isolate demand management as a “fringe” strategy.
- Lack any legal framework outlining the scope of their authority. Conversely, for example, business improvement districts, or BIDs, in the United States and other areas are formed via government-approved “enabling legislation.”
- Lack a consistent formula for sustainable revenue generation, which can lead to poor allocation of resources into fund-raising, and/or low program budgets.
- Exist on extremely small average annual budgets, which can result in:
 - An inability to implement significant programs
 - An inability to attract high-level private-sector Board members
 - An inability to get the full attention of government agencies
 - Poor alignment between expectations and reality, in terms of travel behaviour change results
- Face the administrative burdens of running a small organisation, which can lead to administrative inefficiencies if there are multiple TMAs in one region.
- Succeed or fail in a manner too dependent on the skill and effectiveness of the TMA's Executive Director (ED).
- Pursue programs in a manner too aligned with the skills and/or interests of the ED and/or staff. These may or may not correlate with state/regional goals, or the goals and interests of private-sector members.
- Only have the capacity to influence one end of a trip origin-destination pair. A majority of regional origin-destination pairs likely do not fall entirely within a TMA's boundaries, meaning the TMA inherently only covers limited trips for each person (not comprehensive). This potentially requires individuals to seek transport-related assistance from more than one organisation in a region.
- Have the tendency of stand-alone organisations to chart their own course, in terms of programs delivery, marketing, branding, etc., which can lead to customer confusion.
- Operate with the potential for competition with public agencies (particularly where TMAs and public agencies compete for funding).
- Operate with the potential for competition between different TMAs with one region (e.g., when competing for funding, or when competing for private-sector members).

5 Measures of Effectiveness

TMAs vary considerably in the degree to which they measure their own effectiveness, and against which measures of success they assess program success or failure. Perhaps for these reasons, there has yet to be an objective research-based assessment comparing the effectiveness of geographic areas with TMAs to otherwise comparable geographic areas without TMAs.

According to the *2003 TMA Survey*, 81% of TMAs conduct some type of program evaluation, including “55 percent that surveyed members, 43 percent that surveyed commuters, employers and members about services, 42 percent that surveyed commuters to assess mode shift, 39 percent that tracked calls and emails received in response to marketing and outreach activities, and 22 percent that conducted other types of evaluation activities” (NCTR, 2004).

As the survey of TMAs reveals, evaluation tools vary considerably, as do the types of data collected. One example is provided below, in Figure 2.

Greater Redmond TMA (WA) Annual Report – Snapshot of Results	
Members and Affiliates:	54
Organizations Represented:	270
Commuters Represented:	57,449
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Spring Campaign (All Modes)	
Participants	3,655
New to Non-SOV ¹ commuting	544
Bike-to-Work Campaign (Bicycle)	
Participants	1,446
New to Non-SOV ¹ commuting	450
Summer Campaign (Rideshareonline.com Usage)	
Participants	3,222
New to System	2,010
Fall Campaign (All Modes)	
Participants	2,192
New to Non- SOV ¹ commuting	93
Total GRTMA Promotions Results	
Trips Reduced	40,644
Roundtrip Miles Reduced	1,257,828
Lbs of Pollutants not produced ³	102,765
GRTMA Cost per Trip Reduced ²	\$2.04
GRTMA Cost per Mile Reduced ²	\$0.07
Personal Commuter Value ⁴	\$706,899
Personal Cost Savings ⁵	\$178,612
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The R-TRIP Partnership	
New Vanpoolers	446
New Vans	42
New in RideshareOnline	1,456
New Transit Riders	64
New Non-SOV ¹ Commuter	1,515
Used a new mode at least 45 times	752
Trips Reduced	78,892
Roundtrip Miles Reduced	2,441,506
Lbs of Pollutants not produced ³	199,471
Personal Commuter Value ⁴	\$1,372,126
Personal Cost Savings ⁵	\$346,694
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¹ Non-SOV – Non-Single Occupant Vehicle	
² Costs are based on net related expenses of \$82,758 (labour included)	
³ Conversion of miles to pollutants at 1:0.817 http://www.fsec.ucf.edu/pubs/EnergyNotes/en-19.htm	
⁴ Vehicle Total Cost per mile \$0.562 http://www.ptbus.pierce.wa.us/rideshare/costs.htm	
⁵ Vehicle Operating Cost per mile \$0.142 http://www.ptbus.pierce.wa.us/rideshare/costs.htm	

Figure 2: Greater Redmond TMA 2004 Trip Reduction Results (GRTMA, 2005)

The data presented in Figure 2 above is from the Greater Redmond TMA (GRTMA), in Redmond, Washington, just east of Seattle, in the US. GRTMA was formed in 1989, and offers services to 54 TMA members and affiliates, including the Microsoft Corporation headquarters campus. The area is served only by bus transit service. As with the State of Washington generally, all employers with more than 100 employees, in counties of a certain size, are subject to the State's Commute Trip Reduction (CTR) law, adopted in 1991.

Data for this summary was gleaned from both direct measures of participation in programs offered by the TMA to their member companies, as well as from annual surveys of these employers conducted by the TMA.

As Figure 2 displays, performance measures include vehicle trips reduced and associated vehicle miles of travel reduced. Additionally, for the GRTMA promotions (the R-TRIP programs are conducted in joint partnership and funding with the City of Redmond), cost effectiveness data is provided, for both per trip and per mile factors, based on comparisons of trips reduced and the associated TMA cost of reducing these trips.

Additionally, in Figure 2, GRTMA presents data on emissions reduced as well as personal savings realized by individual commuters working at TMA member companies.

As one of the core services provided by GRTMA includes assisting member companies in complying with the CTR law, another indicator evaluated by the TMA is their ability to provide cost-efficient support. GRTMA provides a range of services to member companies connected to CTR compliance, including site assessments, travel plan development, on-site promotional events, on-site transportation coordinator (TC) services, travel surveys, and more. Figure 3 below shows a GRTMA assessment of the cost per commuter for GRTMA employers to implement CTR programs, compared to non-member companies implementing such programs. This evaluation was used by GRTMA to demonstrate the cost efficiencies gained through TMA-provided services.

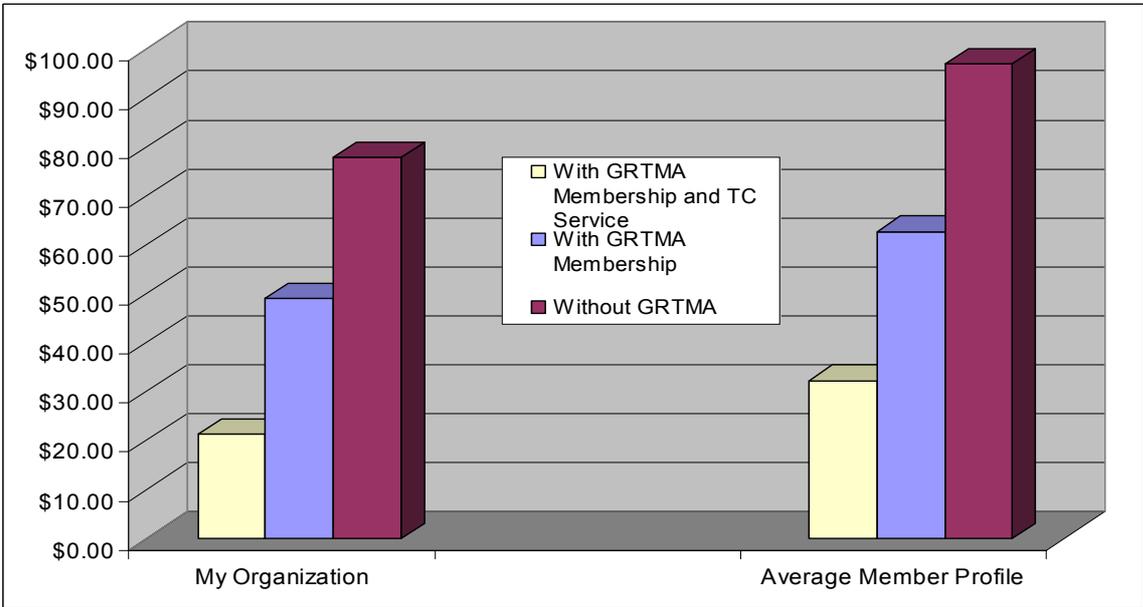


Figure 3: GRTMA Cost per Commuter for CTR Compliance (GRTMA, 2005)

As the examples provided by the GRTMA case study above demonstrate, a single set of criteria to assess the effectiveness of TMAs, as an organisational construct, is not feasible. As noted previously, the structure of TMAs varies widely, as they are established in order to achieve a varied set of results. In some cases, area stakeholders form a TMA simply to

provide a forum for periodic discussion of transport issues, to enhance the ability of area leaders to coordinate their own individual transport programs, or to expand basic awareness of transport alternatives to the SOV.

Most importantly, TMAs should link program objectives to performance criteria and measurement tools. In the best examples, this linkage is very explicit, and rigorous measurement is carried out periodically to test performance and adjust strategies as needed.

In other cases, however, measurement and evaluation are either not completed, poorly performed, or largely ignored by TMA leaders.

6 Conclusion

TMAs have been significant players in the development, implementation, and evaluation of demand management programs in North America. As organisations, they have provided a forum for more engaged participation from private-sector leaders in addressing transport challenges, and enhanced coordination between these leaders and public-sector transport agencies.

The three surveys of TMAs throughout North America, as well as the author's direct working experience with many TMAs in different settings, highlight the diversity of the TMA concept. While the advantage of this diversity is a flexibility to adapt to the unique needs of different areas, the overall success of individual TMAs is closely linked to the clarity of its intended goals and objectives, and the support and skill of the organisation's leadership. Areas exploring TMA formation should evaluate the specific circumstances of their area, potential roles for TMAs as contributors to travel behaviour change efforts, and eventual coordination between TMAs and affiliated public agencies at local or regional levels.

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