

# Transportation Management Associations: A Reappraisal

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## Abstract

*This article reviews the results of eight national transportation management association (TMA) surveys conducted between 1989 and 2003 using meta-analytical techniques. TMAs became popular as vehicles for dealing with traffic congestion and related problems in the late 1980s. Despite their initial popularity, however, many TMAs struggled in the 1990s, and by 2002 almost half of all TMAs formed in previous years had disappeared. Median TMA annual budgets bottomed out in 1991, but have since rebounded to a new high in 2003. TMAs today are more diverse in terms of organizational structure, offer a wider variety of products and services, and have better financial security. With higher gasoline prices and a heightened awareness of the security issues related to foreign oil dependence, the market for TMA programs and services seems likely to grow, if perhaps at a modest pace, during the foreseeable future.*

## Introduction

Transportation management associations (TMAs) first appeared on the scene in the late 1970s or early 1980s, although it was not until the late 1980s that these were consistently labeled as such. The boom years of the late 1980s and early 1990s were followed by a time of challenge, during which many formative and operational TMAs ceased to exist. In the mid-1980s, TMAs were viewed by some as a form of panacea, destined to solve not only traffic congestion, but many other societal ills as well (Leinberger and Lockwood 1986).

Elsewhere, developers, employers, and local governments have created TMAs to find solutions to transportation problems. Besides organizing ridesharing and vanpools, promoting staggered work hours, and lobbying for government-funded capital improvements, some TMAs are expanding their role into childcare, private police, and other services for their geographic areas. It is imaginable that TMAs, born of the traffic-congestion crisis, could mature into an echelon of government well-suited to the realities of our emerging urban villages.

The reality may have been a little harsher than this early testimonial might otherwise suggest, but TMAs continue to persevere, and many are thriving in the first decade of the 21st century. The purpose of this article is to review the historical development of TMAs over the critical period of their first rise to prominence, to shed light on their prospects for growth, change, and innovation in the coming years.

One broadly inclusive definition of a TMA is “an organized group applying carefully selected approaches to facilitating the movement of people and goods within an area” (Hendricks 2004). Individual TMAs may vary in terms of their size and location, organization and management, revenues and expenses, membership and participation, and products and services offered. Alternative TMA labels include transportation management organization (TMO), transportation management initiative (TMI), and transportation management district (TMD), among others, although none of these has achieved the widespread popularity of the TMA acronym. To the extent that these alternative TMA designations represent real differences, TMOs are more action-oriented than TMAs, TMIs refer to TMA start-ups, and TMDs refer to special purpose tax districts and/or operating areas.

## **Data**

Most of the data used to inform this article derive from eight national TMA studies conducted over a 14-year time period (1989 to 2003). These are the most complete data available on TMA planning, development, and implementation, and the most current as well:

1. 1989: The Association for Commuter Transportation (ACT) compiled its first comprehensive national TMA directory in 1989 (ACT 1989). Ferguson (1990) used these data to show that TMA characteristics varied significantly, depending on who initiated the TMA.

2. 1990: The Urban Land Institute (ULI) evaluated transportation management through partnerships, with a particular focus on TMAs, between 1986 and 1990 (Dunphy and Lin 1990). Their report focused especially on the evaluation of TMA results, measured in terms of observed changes in travel behavior.
3. 1991: The Georgia Institute of Technology conducted a national TMA survey under a grant from the Urban Mass Transportation Administration in 1991 (Ferguson, Ross, and Meyer 1993). Ferguson (1997a) used these data to show how private sector participation affected and was affected by key TMA characteristics.
4. 1993: Commuter Transportation Services, Inc. (CTS) conducted a national TMA survey in 1993 under the auspices of ACT, focusing on policies and procedures, especially management and personnel issues (CTS 1993). Ferguson and Davidson (1995) compared these national TMA survey results with those from several previous studies.
5. 1995: ACT compiled a new national TMA directory in 1995 (ACT 1995). This directory was a revised and improved version of ACT (1989).
6. 1998: UrbanTrans Consultants, Inc. (UrbanTrans) conducted a national TMA survey under the auspices of ACT in 1998 (UrbanTrans 1998). This survey was a revised version of the one CTS conducted in 1993. The results were summarized in an appendix of ACT (2001).
7. 2002: ETF Associates (ETF) conducted a national TMA internet search in 2002. The purpose of this study was to identify the survival characteristics of all previously identified TMAs.
8. 2003: The Center for Urban Transportation Research (CUTR) at the University of South Florida conducted a national TMA survey under the auspices of ACT in 2003 (Hendricks 2004). This survey was a revised and expanded version of the ones previously conducted in 1993 and 1998.

The 1989 and 1995 data are closely related, as are the 1993, 1998, and 2003 data. The 1990, 1991, and 2002 data are unique unto themselves. The 1995 data have never before been used for scholarly research. Ferguson and Davidson (1995) gave a cursory overview of several previous TMA studies, but focused mainly on comparing the 1991 and 1993 data. Hendricks (2004) compared selected survey results from the 1993, 1998, and 2003 studies. This article seeks to provide a more

comprehensive overview of survey results from all eight studies using a variety of formal and informal meta-analytical techniques (Hunter 1982).

## **Organization**

ACT (1989) identified 51 TMAs nationally, of which many presumably were still in the earliest formative stage at the time the directory was compiled. Dunphy and Lin (1990) identified 72 TMAs nationally between 1986 and 1990, of which only 34 were operational at the time. Ferguson, Meyer and Ross (1993) identified 110 TMAs nationally in 1991, of which 64 responded to their survey. CTS (1993) identified 136 TMAs in 1993, of which 51 responded to their survey. ACT (1995) identified 78 TMAs nationally in 1995. UrbanTrans (1998) identified 135 TMAs nationally in 1998, of which 82 responded to their survey. Hendricks (2004) identified 146 TMAs nationally in 2003, of which 97 responded to her survey.

It would appear that the number of TMAs in the United States grew rapidly from 1989 to 1992, but leveled off sometime shortly thereafter. ETF Associates conducted a national search for TMAs in 2002 (ETF 2002), seeking answers to four simple questions:

1. How many TMAs are there?
2. In what year were they formed?
3. In what year were they disbanded (if relevant)?
4. Does the TMA have a website (if it currently exists)?

ETF (2002) identified a total of 137 active TMAs in existence in 2002, of which more than 100 currently maintained their own websites. Although the number of TMAs in existence in 2002 did not rise much above the number previously identified in 1992, it would appear that there were more “fully operational” TMAs in 2002 than in previous years.

ETF (2002) identified a grand total of 249 past and present TMAs based on information derived from various national studies, as well as personal contacts with industry professionals. Of these, 112 TMAs were confirmed no longer to exist. In fact, many of these dissolved TMAs never really got off the ground in the first place, having failed to get past the earliest formative stages of development. This information was difficult but not impossible to ascertain, despite the short institutional memory frequently associated with failed public policy experiments.

Year of formation was identified for all 249 of the TMAs included in ETF (2002), with multiple data points available in many cases. Four previous studies provided this information for between 34 and 78 TMAs each, yielding a total of 251 data points representing 123 different TMAs (Dunphy and Lin 1990; Ferguson, Ross, and Meyer 1993; ACT 1995; UrbanTrans 1998). Year of formation was identified for an additional 81 TMAs from their websites and/or Internet correspondence. Year of formation was interpolated for the remaining 45 TMAs based on other information. Whereas definitive information was available for the year in which 204 of the 249 TMAs identified by ETF (2002) were formed, the year of dissolution could be identified for only 23 of the 112 TMAs that no longer existed.

National trends in TMA formation are illustrated in Figure 1. As can be seen from this five-year moving average, the peak year for TMA formation was 1990. The number of TMAs formed each year has declined steadily since then, although the number of active TMAs formed each year has remained relatively stable for more than a decade. It would appear that overall stability in the total number of TMAs identified nationally in previous studies dating back to 1993 is the result of two related factors:

1. The number of TMAs formed each year has declined.
2. The number of TMAs disbanded (or which failed to get past the formative stage) has declined even more.

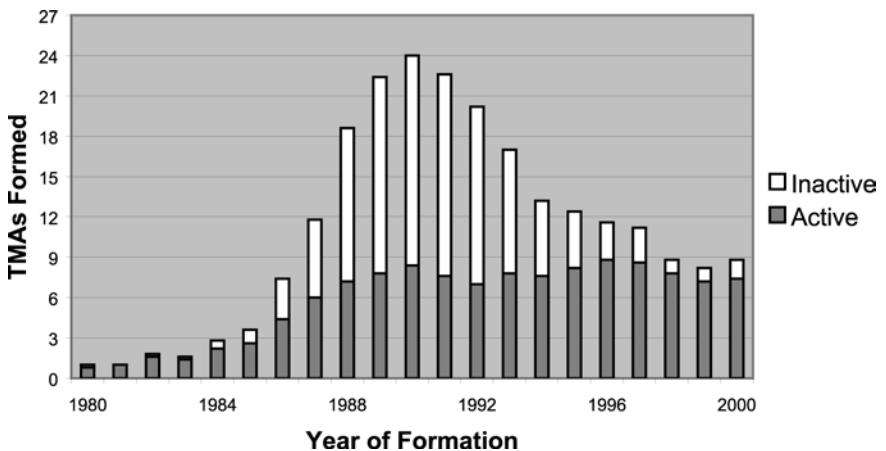
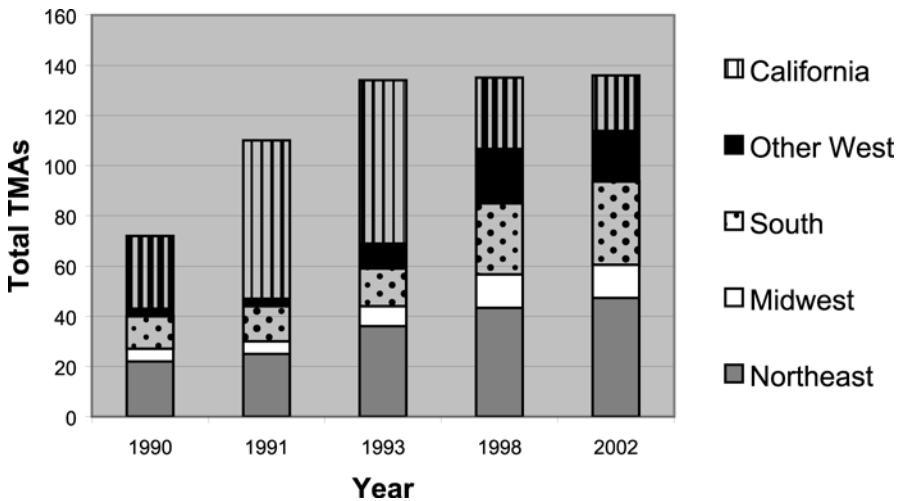


Figure 1. TMA Formation, 1980-2000

The overall result is stability in the total number of TMAs in existence. This implies that there is still some turnover, but that the rate of turnover has decreased, the average age of TMAs has increased, and the percentage of TMAs that are “fully operational” is higher today than it was 10 or 15 years ago.

TMA formation varies across space as well as time. Western states, especially California, were early leaders in the formation of TMAs (Figure 2). Southern and mid-western states entered the field somewhat later. Although California continues to have more TMAs than any other single state, the regional distribution of TMAs is today more even than at any previous time.



**Figure 2. TMA Distribution 1990-2002**

TMA formation also varies by metropolitan location. Of the 249 TMAs identified by ETF (2002), 231 (93%) were located in the 48 standard metropolitan statistical areas with populations exceeding 1,000,000. These same metropolitan areas account for “only” 54 percent of the total U.S. population, demonstrating that TMAs are primarily a phenomenon of large urban areas. Interestingly, of the 18 remaining TMAs located in rural and small urban areas (generally speaking the latter), 13 were still in existence in 2002, demonstrating that these out-of-the-

ordinary small urban TMAs had a much stronger likelihood of surviving than did their large urban counterparts.

Older TMAs are significantly more likely than newer ones to use technology creatively (maintain websites, provide online matching, etc.), to be insured against liability damages, and to be incorporated as a nonprofit organization. Older TMAs have slightly larger governing boards with a somewhat higher percentage of voting members as well (UrbanTrans 1998). There are clear advantages to survival for a longer period of time, so one might well ask what caused so many TMAs to fail as innovative public/private partnerships in transportation in the early 1990s.

## Finance

One possible explanation for the demise of so many TMAs seemingly at the height of their popularity is financing, or the lack thereof. TMAs in 1989 had a median annual budget of \$145,000, which fell by 1991 to \$120,000, only to rise again to a new high of more than \$200,000 in 2003. Adjusted for inflation, TMA financial resources fell in the early 1990s, and were only restored to their 1989 level in 2003 (Figure 3). A large number of TMAs entered the market in the early 1990s, starting out with limited resources, and attempted to build a secure financial base. Many would not succeed.

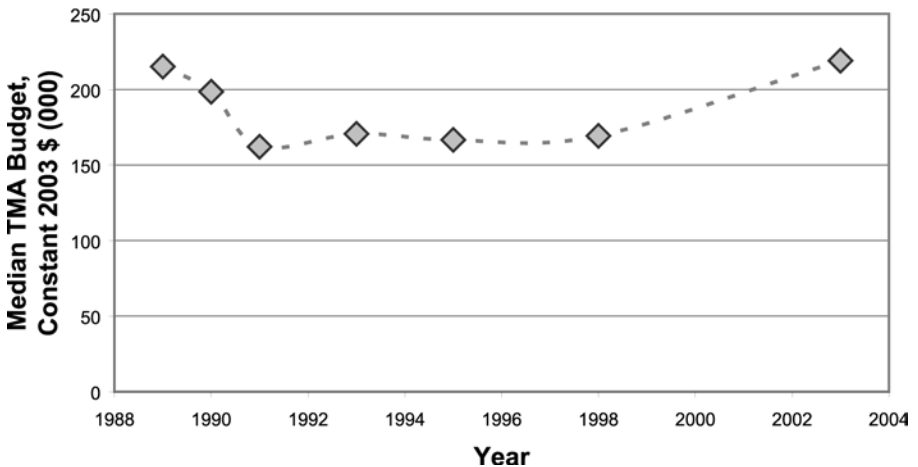


Figure 3. TMA Finance, 1989-2003

In 1991, TMAs estimated their median annual start-up budget at \$80,000, their median current budget at \$120,000, and their median anticipated 1995 budget at \$175,000 (Ferguson, Ross, and Meyer 1993). The observed increase in TMA budgets between 1991 and 1993 was identified by some as a positive sign (Ferguson and Davidson 1995). The median budget figures for both 1995 and 1998 remained well below those projected in 1991 for 1995, however, suggesting that many TMAs continued to struggle in their efforts to achieve financial security long after the crunch in 1991 had passed. Only in 2003 was there a significant increase in TMA financial resources over previous years, and then only in nominal terms.

California TMAs differed considerably from their counterparts in other states in 1991. California TMAs in 1991 projected that membership dues would increase considerably from 10 percent at start-up to 49 percent in 1995, private grants would increase modestly from 32 percent to 40 percent, while government grants would decline precipitously from 50 percent to only 5 percent. In contrast to these major anticipated changes in California TMA financing, TMAs in other states in 1991 projected that membership dues would increase modestly from 10 percent at start-up to 24 percent in 1995, private grants would fall slightly from 22 percent to 14 percent, and government grants would fall even more slightly from 63 percent to 57 percent (Ferguson, Ross, and Meyer 1993).

Of 66 California TMAs that have been formed at one time or another, only 19 remained active in 2002, producing a rather imposing 71 percent overall failure rate. Only the Midwest joined California with a failure rate exceeding half (53%). The average failure rate in all other parts of the country was only about 30 percent (ETF 2002). Clearly, it would seem that California TMAs suffered a much higher mortality rate than those located in other parts of the country. To the extent that financial insolvency was a primary factor in the demise of TMAs generally, it would seem that California's approach to TMA financing, eschewing government grants in favor of private grants and voluntary membership dues, may have been at least partially to blame. Many failed California TMA start-ups (as well as some of the more successful ones) were funded initially by Caltrans seed grants that were limited in duration to three years maximum (Diggins and Schreffler 1992).

California TMAs in 1998 received more revenue from membership dues and less from grants than did those in any other region, showing that their 1991 financial objectives were at least partially met. Northeastern and southern TMAs had the most resources in 1998, followed by California TMAs, those in other western states, and those in the Midwest. Northeastern and southern TMAs spent the



most money on marketing in 1998. Northeastern and California TMAs spent the most money on direct service provision (UrbanTrans 1998).

What is perhaps most interesting about the information presented in Table 1 is that TMAs that derive a higher percentage of their revenues from membership dues would seem to have a much higher propensity to fail as well. California and midwestern TMAs both derive about 40 percent of their revenues from membership dues. Both of these groups of TMAs are underfunded, at least in relation to northeastern and southern TMAs. Both groups have shown a much higher failure rate than those in other parts of the country. Since membership dues have long been touted by industry pundits as the best and most secure form of long-term TMA funding (Dunphy and Lin 1990; Ferguson, Ross, and Meyer 1993; Ferguson and Davidson 1995), this finding is rather surprising, to say the least. It appears that purely voluntary membership organizations and dues often fail to provide sufficient financial stability for long-term TMA survival.

**Table 1. TMA Revenues and Expenses by Region, 1998**

<b>Budget Category</b>		<b>Northwest</b>	<b>Midwest</b>	<b>South</b>	<b>Other West</b>	<b>California</b>
<b>Expenses</b>	Office operations	\$62,185	\$81,250	\$86,154	\$51,073	\$49,392
	Marketing and promotion	\$46,923	\$25,625	\$53,808	\$14,854	\$24,658
	Capital services	\$29,107	\$417	\$1,442	\$6,563	\$12,100
	Other services	\$32,417	\$1,042	\$17,404	\$9,792	\$32,333
	Other	\$28,179	\$0	\$35,423	\$26,052	\$22,350
	<b>Total</b>	<b>\$198,810</b>	<b>\$108,333</b>	<b>\$194,231</b>	<b>\$108,333</b>	<b>\$140,833</b>
<b>Revenues</b>	Member dues	\$42,932	\$42,583	\$45,643	\$23,973	\$62,912
	Grants and subsidies	\$143,568	\$41,417	\$110,071	\$58,973	\$45,890
	Service fees	\$11,719	\$0	\$6,429	\$14,732	\$809
	Developer funding agreements	\$4,427	\$0	\$23,750	\$5,357	\$11,015
	Other	\$18,708	\$24,333	\$6,964	\$18,393	\$32,316
	<b>Total</b>	<b>\$221,354</b>	<b>\$108,333</b>	<b>\$192,857</b>	<b>\$121,429</b>	<b>\$152,941</b>

## Membership

Membership in most TMA's is predicated on the interaction between two clearly separate and distinct principles. First, most TMA's serve a specific geographic location, which may include one or more cities, counties, travel corridors, activity centers, and/or an entire metropolitan region, or some significant part thereof. Second, within any given TMA's clearly designated service area boundaries, it may seek to recruit members, volunteers or participants from among land owners, developers, employers, employees, residents, local governments, state agencies, transportation providers, and other potentially interested individuals and organizations in either the public or the private sectors.

Well over 90 percent of all TMA's have membership programs of some type currently in existence. Service area definitions vary considerably by region (Figure 4). Most northeastern TMA's serve regions or multiple jurisdictions. Most southern TMA's serve CBDs or suburban/fringe activity centers. A plurality of midwestern TMA's serve individual cities or single jurisdictions. Western TMA's are the most diversified in terms of service area characteristics (UrbanTrans 1998).

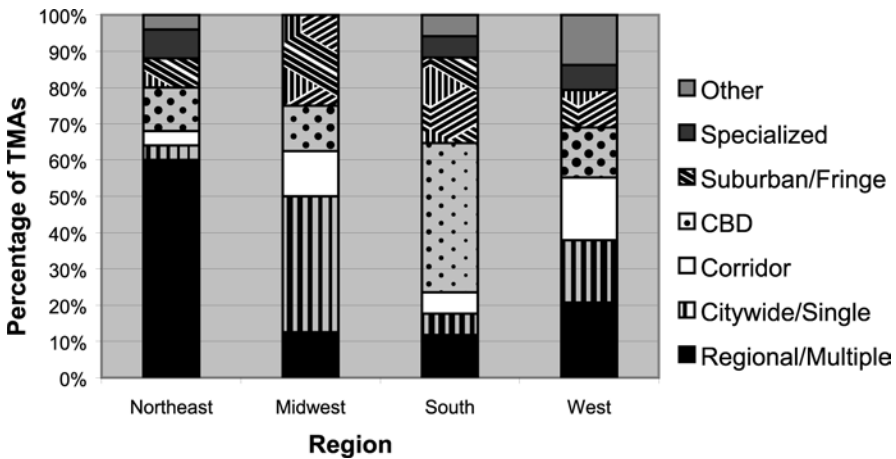


Figure 4. TMA Type by Region, 1998

Despite such obvious differences in service area boundary definitions, there are no major differences in the populations served by TMA's in different parts of the country. The median TMA has 25 corporate members and serves a geographic

area that encompasses 25,000 commuters nationally. This varies from a high of 36 members and 30,000 commuters in the South to a low of 20 members in the Midwest and 16,600 commuters in the West. Although there are some differences among regions in terms of total TMA membership, such differences do not appear to vary systematically based on either service area boundaries or financial characteristics.

In 1998, 62 percent of all TMA members nationally were businesses, 17 percent government agencies, 8 percent developers, 5 percent nonprofits, and 2 percent residents. These figures varied hardly at all by region. The average TMA reported a net gain of five members in 1998, with only two of 62 respondents admitting to an actual net loss in TMA membership during that year. TMAs in the South claimed the greatest market penetration, with 52 percent of the potential market included within their membership, followed by the West at 36 percent. The Northeast and Midwest lagged behind at 22 percent each (UrbanTrans 1998).

The most popular TMA recruitment strategy in 1998 was peer-to-peer contact, which basically entailed using current members to recruit new ones in the private sector (73%), followed by personal letters from the TMA executive director (66%), brochures (56%), cold calls (44%), and governmental or contractual mandates (16%) of one kind or another. The single most effective technique in 1998 was peer-to-peer contacts (43%), followed by mandates (30%), letters (13%) and anything else (14%). Clearly, mandates were underutilized as a recruitment device in 1998, based on their reported effectiveness (UrbanTrans 1998).

It would appear that membership is rising for almost all TMAs, at least among those choosing to participate in the 1998 national study. TMA membership does not seem to relate to either TMA finance or the propensity of TMAs to succeed or fail, however, at least not in any observably systematic fashion. This suggests that TMA membership, at least by itself, cannot explain either TMA financial success or the survivability of TMAs. This once again seems strange and unexpected, requiring further thought and analysis.

## **Services**

Membership has its benefits, and it is these benefits that determine the desirability of membership, which is the propensity of individuals or firms to join organizations as members, to maintain their organizational membership in good standing, and to pay their membership dues on a regular and timely basis, if and as required

for the continuation of both their membership and any of its associated benefits. In the case of nonprofit organizations, the question of membership benefits can at times become somewhat more obscure to public view. Is membership in a TMA a form of profit-making activity, a charitable contribution to society, a necessary adjunct to other related decisions (such as the location of economic activities across both time and space), all of the above, or none of the above?

TMA's may choose to provide specific programs and services to their members, to nonmembers located within their designated service area boundaries, or to others located outside their service area boundaries on a special or case-by-case basis (Ferguson 1997a). TMA's may choose to provide particular programs and services directly, indirectly through brokerage or referral, or not at all. TMA's may choose to provide programs and services at cost, at a higher price than cost (as a private firm does to generate profits, or simply to cover indirect overhead in the case of nonprofit organizations), at a lower price than cost (a form of subsidy), at no cost (free of charge, although one could argue that membership dues broadly cover all or at least a portion of related costs), or even at negative cost (in the form of a cash payment, voucher, or other financial instrument that exceeds the out-of-pocket cost to the commuter or other designated beneficiary of the program and/or service).

Member services may be distinguished in terms of pricing policy as loss leaders (subsidies), nonprofit (break even), or income producing (profit centers). Most nonprofits, including most TMA's, base their pricing schedules on a cost or subsidy basis, ignoring overhead, treating office and administration expenses as a sunk cost. Subsidies paid to corporate members and their employees are a tangible benefit of TMA membership, a return on the investment of membership fees that have already been paid. Subsidies paid to nonmembers and their employees are nominally free, but may come with strings attached, such as the expectation of future membership, and are thus linked to marketing and recruitment efforts. Subsidies paid to firms and employees outside the designated TMA service area boundary typically include no future expectations whatsoever, and are thus essentially a form of charity (Table 2).

Prices higher than market rates (or the TMA's cost basis, whichever is higher) are a form of profit taking, although in the case of indirectly provided services there may be some basis for a modest mark-up to cover TMA costs related to brokerage or referral services, similar to those imposed by travel agencies, for example. Some products and services may not be available at all, either because the TMA does not provide these services, or more generally because these are not provided, are

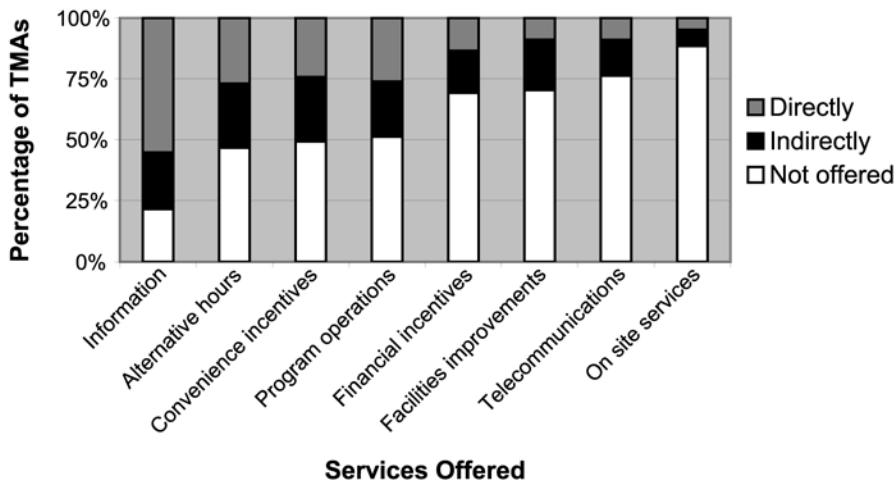
**Table 2. TMA Services by Membership, Location, and Fee or Charge**

Fee or Charge	Members		Non-Members		Outside Service Area	
	Direct	Indirect	Direct	Indirect	Direct	Indirect
Not available (at any price)	Not offered	Unavailable	Excluded	Unavailable	Excluded	Unavailable
Higher price	Profit	Mark-up	Profit	Mark-up	Profit	Mark-up
Market price (or cost basis)	Market	Broker	Market	Referral	Market	Referral
Lower price	Subsidy	Subsidy	Marketing	Marketing	Charity	Charity
Free (no charge)	Inclusive	Inclusive	Marketing	Marketing	Charity	Charity
Negative price (cash bonus)	Incentive	Incentive	Marketing	Marketing	Charity	Charity

not suitable, or are not relevant to the local service area. Membership-based TMAs need not offer any of their products and services to either nonmembers or firms and employees outside their designated service area. If and when TMAs do offer benefits of any kind to nonmembers, it is not necessary for them to employ the same pricing policy. A TMA may exclude any nonmember from receiving a product or service that is available to members, or to offer such products and services to nonmembers at a higher price.

The only previous national study to consider direct versus indirect TMA services offered was the 1991 Georgia Tech study (Figure 5). The most common type of TMA service offered in 1991 was information (e.g., carpool, vanpool, and transit information). The least likely was on-site services, which includes childcare, banking, etc. With the exception of on-site services, which were relatively uncommon in 1991, all services were offered indirectly by between 15 percent and 27 percent of responding TMAs, a limited range of variability that suggests TMAs were more limited by the availability of selections than selective in their choice of indirect services to offer.

The 1993 CTS, 1998 UrbanTrans and 2003 CUTR surveys each included a set of related questions about the availability of TMA services to TMA members (regardless of price) and to nonmembers (with or without a nonmember price surcharge). The use of TMA services as a marketing tool (provided to nonmembers at the same price as members) has increased gradually from 38 percent in 1993 to 40 percent in 1998 and 43 percent in 2003. The use of price surcharges to exclude



**Figure 5. TMA Services, 1991**

nonmembers from TMA services (a negative enticement to join the TMA) has fallen from 29 percent in 1993 to 10 percent in 1998 and 6 percent in 2003.

The number of TMA services included in each successive ACT survey has grown, and the labels in many cases have changed, sometimes expanding, sometimes contracting, the definition of the specific service in question. Four general types of TMA services are included in all three national ACT TMA surveys. These include marketing and public relations, employer services, commuter services, and parking services.

Marketing and public relations include regional and local advocacy and promotional materials and events. These services have declined in importance relatively speaking in recent years, but continue to be among the most popular offered by TMAs (Table 3). Employer services include ETC training, trip reduction plan preparation, site design assistance, and employee surveys. These services have declined slightly as well, with a new service, tax benefit assistance, emerging as the most popular among these in 2003. Commuter services have expanded over the years, increasing in both number and relative popularity between 1993 and 2003. Parking services are the least common type of TMA service, and declined slightly between 1998 and 2003.

**Table 3. TMA Members Services, 1993-2003**

General Category	1993		1998		2003	
	Service Label	%	Service Label	%	Service Label	%
Marketing and Public Relations	Advocacy	96%	Regional/local advocacy	91%	Regional/local advocacy	74%
	Ridesharing promotion at employers	90%	Rideshare promotion at employers	95%	Promotional events	80%
	Periodical publications, printed material	94%	Promotional events at employer sites	93%	Promotional materials/newsletters	85%
Employer Services	ETC training	61%	ETC training	67%	ETC training	52%
	Trip reduction plan preparation	69%	Trip reduction plan preparation	63%	Trip reduction plan preparation	58%
	Develop/process employee surveys	67%	Site design assistance	51%	Site design assistance	36%
				Tax benefit program assistance	63%	

**Table 3. TMA Members Services, 1993-2003 (cont'd.)**

Commuter Services	Ridematching	73%	Rideshare matching	84%	Rideshare matching	85%
	Vanpool formation assistance	78%	Vanpool services	58%	Direct ridesharing incentives	52%
	Vanpool subsidy programs	24%	Vanpool subsidy program	42%	Vanpool services	66%
	Shuttle service	31%	Shuttle/local transit provision	41%	Vanpool subsidy program	54%
	Transit pass sales	39%	Subsidized transit passes	32%	Shuttle/local transit provision	52%
	Guaranteed ride home	67%	Guaranteed ride home	79%	Direct shuttle service operation	27%
					Subsidized transit passes	51%
					Bicycle program	55%
					Carshare program	25%
					Telecommuting program assistance	51%
Parking Services					Guaranteed ride home	75%
	Parking management assistance	41%	Parking pricing and/or management	32%	Parking pricing and/or management	24%
			Parking services	33%	Parking services provision	27%



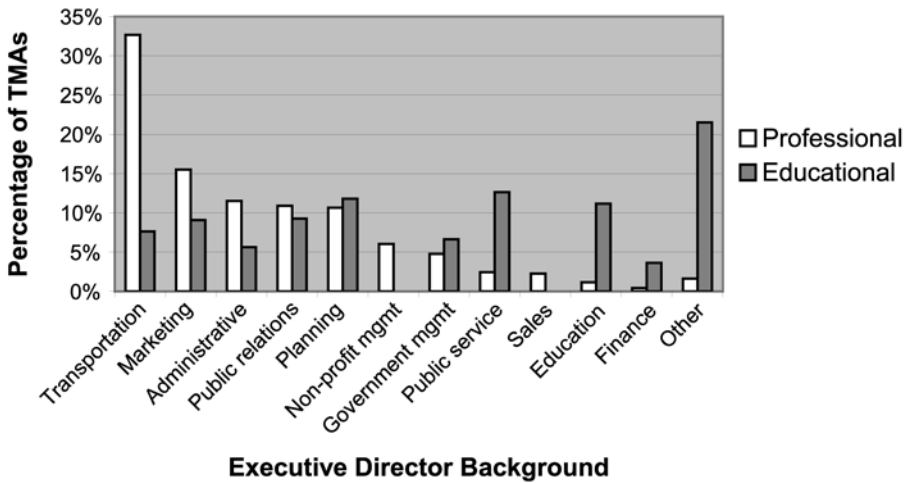
## **Personnel**

Another possible explanation for the poor financial performance of TMAs in the 1990s might be inadequate staff or inappropriate hiring decisions. In 1998, the average TMA had 2.0 full-time employees, 0.8 part-time employees, and 0.3 contract employees, for a total of 3.1 employees. The median TMA had only 1 full-time employee, 1 part-time employee, and no contract employees, for a total of just 2 staff, 1 of these being part time. Clearly, TMAs are not overstaffed. The average “value added” of the median TMA employee is \$75,000 per year, which is not unreasonable given the extent to which TMAs contract out for staff, products, and/or services.

In 1998, 33 percent of all TMA executive directors indicated their professional background was in transportation, followed by marketing (16%), administrative (12%), public relations (11%), planning (11%), and nonprofit or government management (11%). This would seem to be an appropriate mix to manage public-private partnerships in transportation. In 1998, the most common TMA executive director educational backgrounds included public service (13%), planning (12%), education (11%), marketing (9%), public relations (9%), transportation (8%), and a rather large contingent in the “other” category (22%). Executive director educational backgrounds were more diverse than professional backgrounds, with less specific emphasis on transportation. This is a reflection of the educational system in the United States and indeed the entire world, which only began to pay serious attention to transportation as an academic subject and professional training issue in the last few decades (Figure 6).

In 1998, as TMA staff size increased, so too did the average qualifications of those hired to do the job. While 38 percent of 1-person TMA staff were contract employees and 50 percent of 2-person TMA staff worked part-time, fully 72 percent of all 3- or more person TMA staff were full-time employees. As TMA staff size increased, so too did each of the following critical parameters:

- The percentage of TMAs that contracted out for specific services, had written personnel policies, and conducted annual employee reviews
- The executive director’s average level of education, annual salary, years of service with the TMA, and overall years of experience in TDM
- The number of employee benefits offered (especially paid holidays, seminar and conference attendance, professional membership dues, and medical, dental, life and vision insurance)



**Figure 6. TMA Leadership, 1998**

It would seem that TMA personnel have suitable backgrounds for the work they are engaged in. Further, the level of professional expectations and rewards both increase as the number of TMA employees increase. Thus, it would seem that TMA growing pains are not associated with either insufficient staff or inadequate staff preparation.

### Evaluation

An evaluation of TMA performance may contribute to a better understanding of past, present, and future expectations. TMA evaluation has been the subject of intense scrutiny in the past (Dunphy and Lin 1990), and may once again become a topic of research interest in the future. TMA evaluation may take place at several different levels of analysis, using diverse information sources, to serve a multiplicity of goals and objectives. Some people seem to expect TMAs to perform congestion mitigation miracles on shoestring budgets (see Ferguson, Ross, and Meyer 1993), while others think TMAs do not require any evaluation at all (see Ferguson and Davidson 1995). The answer presumably lies somewhere in between.

TMA evaluation criteria may include one or more of the following general types of performance measures (ACT 2001):

1. Corporate leadership and involvement
2. Suitability of goals and objectives
3. Development and deployment of strategic plan
4. Financial management systems
5. Degree of external visibility
6. Effectiveness of programs
7. Measures of commuter and member satisfaction
8. Other (completely open-ended, tailored to the specific needs and requirements of individual TMA boards, members, clientele, etc.)

These are organized from the most general to the most specific. The first five are all internalized performance measures, which relate to the way the TMA sees itself in the broader context of urban travel markets, regional transportation policy, and corporate client concerns. The sixth and seventh are those most often found in external reviews of TMA performance as an objective evaluation outcome. Clearly, TMA evaluation is mainly, although not entirely exclusively, a subjectively experienced phenomenon, at least from the TMA industry perspective.

In 1989, only 14 percent of 51 responding TMAs indicated they had any experience with evaluation of any kind (ACT 1989). Dunphy and Lin (1990) devoted much of their attention to measuring TMA performance, with mixed results. Their relatively few examples of drive-alone rates and peak-period congestion in suburban activity centers with and without TMAs are good indicators of how a TMA evaluation ought to be done, but rather poor examples of TMA performance in practice. This is mainly because most TMAs were not yet operational at the time the ULI study was conducted.

In 1991, the performance indicators most commonly felt to be appropriate by TMAs in terms of their own evaluation criteria were (1) changes in employee mode of travel (89%) and (2) changes in the number of vehicle trips made (80%). In 1991, 18 percent of 60 responding TMAs had completed, 17 percent were conducting, 10 percent had proposed, and 55 percent had not performed any type of evaluation within the last three years (Ferguson, Ross, and Meyer 1993).

Most TMA evaluations in 1991 were conducted externally (73%). The most common TMA auditors included government agencies (68%), private consultants (37%), and universities (16%). In 1991, more than half (54%) of responding TMAs indicated they intended to conduct at least one evaluation within the next three

years, while 36 percent did not intend to conduct any evaluations within the next five years. Nonetheless, 47 percent of all responding TMAs in 1991 reported that annual evaluations were the best approach, at least under ideal circumstances. These results reinforce the notion that TMA evaluation is potentially controversial, possibly even a divisive issue within the TMA community itself.

In 1993, 54 percent of responding TMAs provided at least one example of an evaluation product, while 25 percent provided two or more such examples (CTS 1993). Clearly, as time passed, more TMA evaluations were being performed. ACT (1995) included text describing three different qualitative aspects of program evaluation, including the following:

1. Monitoring and enforcement
2. Successes to date
3. Reports and publications

No analysis was performed on any of these items in 1995, nor were specific results from any of these references either confirmed or denied through external validation. In the 1998 national TMA survey, for the first time no questions of any kind were included on the subject of TMA evaluation (UrbanTrans 1998). Clearly, there is a dearth of recent information on measurable performance indicators for TMA programs, services, and related activities.

Ferguson (1997a) provides two concrete examples of TMAs that achieved measurable changes in employee mode split among commuters within their designated service areas, but quantitative results such as these remain relatively scarce within the TMA community. One should recall, however, that the median TMA serves 25,000 commuters on an annual budget of \$150,000, which yields just \$6 per commuter per year. Even assuming that only the employees of TMA members are served, the median TMA still has only \$18 annually per employee to spend on modifying travel behavior, reducing traffic congestion, and improving air quality. This is a quite modest sum to work with. For TMAs to produce measurable results, one might conclude that greater financial and staff resources than these would be required.

This depends entirely on the performance measure used to evaluate TMA productivity. Reducing traffic congestion in an urban environment is an expensive proposition, even when it falls into the “low cost” category. Recruiting TMA members and encouraging alternative forms of transportation is less costly than reducing traffic congestion. Increasing people’s awareness of alternatives is the least costly

of all, though it may not be associated with measurable changes in local or regional transportation system performance.

## **Expectations**

As previously demonstrated, much of the confusion over TMA performance in relation to external expectations is due to variations, not so much in financial resources or staff commitments, but rather much broader social and organizational goals and objectives. There are in fact almost as many different types of TMAs as there are TMAs themselves, since each is described uniquely by the individual circumstances that led to its creation in the first place. Nonetheless, it is possible to discern several broad categories of endeavor within the TMA domain, based primarily on service type rather than service area or boundary definitions, for example. These different levels of TMA service may include some or all of the following:

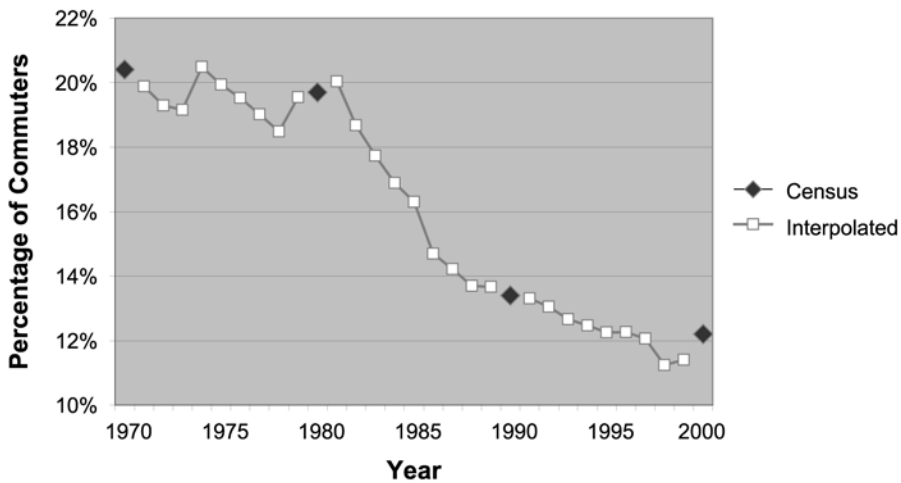
1. Promoter: Advocacy, marketing, and promotions
2. Broker: Brokerage and referral services
3. Provider: Direct provider of corporate and/or commuter services, focusing on the exchange of information and other more tangible incentives
4. Owner/operator: Facility and equipment manager, e.g. parking, vanpools, shuttle, etc.

The first type listed is the most common among TMAs today, the last perhaps least common. Many TMAs provide a range of services covering more than one of these categories. It may be that some or all of these service delivery options operate on a hierarchical or sequential basis, with those listed above required for those below to become fully operational, but this hypothesis has yet to be tested on real data, which at present do not exist for that purpose.

As TMA products and services grow increasingly more sophisticated, their cost may be expected to rise, and demands for adequate performance monitoring and evaluation will increase correspondingly. TMAs that focus their efforts primarily on promotional activities may not have much of an impact on commuter travel markets, other than as a form of emergency back-up, with some additional appeal as a vehicle for improved public relations.

There may be some hope yet for more tangible TMA results. Ferguson (1997b) developed a model of carpooling as a function of average fleet fuel economy, real

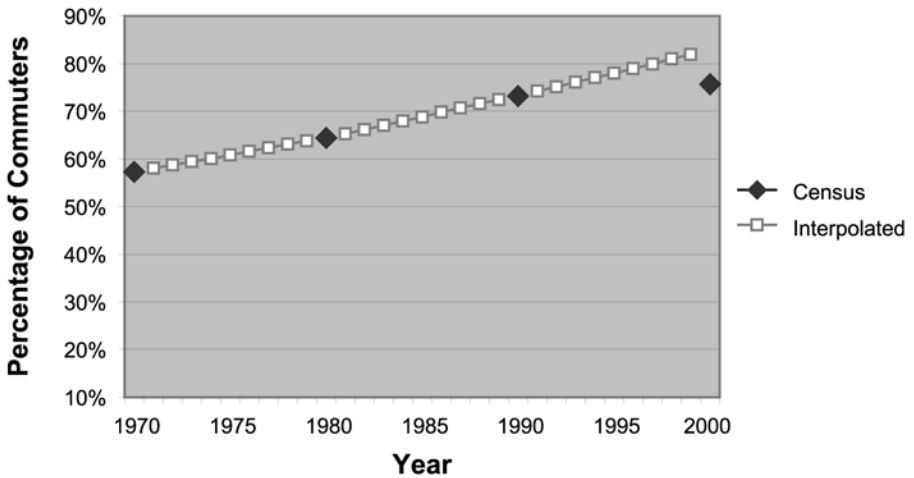
gasoline prices, and a trend variable representing demographic changes in society. When this model is applied to more recent national data, it suggests that carpooling may have done slightly better than expected in the 1990s, even if there was a slight decline in carpooling mode split overall between 1990 and 2000 (Figure 7). Even more dramatic, the rapid rise in driving alone that occurred in both previous decades did not materialize in the 1990s (Figure 8).



**Figure 7. National Trends in Carpooling, 1970-2000**

The large declines in transit use and walking observed in previous decades were not repeated in the 1990s (U.S. Census Bureau 2000). It thus appears that something happened in the 1990s that did not occur in either the 1970s or 1980s before it.

Washington State, which currently possesses the only mandatory statewide commute trip reduction ordinance in the country, actually saw a slight decline from 73.9 percent driving alone to work in 1990 to 73.3 percent in 2000. King County, which includes the City of Seattle, saw a much larger decline from 71.4 percent driving alone in 1990 to 68.7 percent in 2000, a 3.7 percent shift from driving alone to work into alternative modes of travel.



**Figure 8. National Trends in Driving Alone, 1970-2000**

While one cannot attribute any of Washington State’s success in commute trip reduction specifically to the performance of individual TMAs, there are a number of these in Washington State, most formed within the last 10 years. These results do suggest that TDM can work on a large regional scale, at least under some circumstances. TMAs may be one of the institutional mechanisms needed to implement more efficient and effective TDM programs in the future.

## Conclusions

TMAs have evolved considerably over the last 25 years. Initially conceived as public/private partnerships formed on a voluntary basis to advocate on behalf of local stakeholders to alleviate traffic congestion in rapidly growing transportation corridors and suburban activity centers, TMAs today have diversified into a broader range of institutional forms serving a wider range of organizational interests.

After a shake-out in the 1990s, the number of TMAs nationally is rising slowly but steadily. TMAs have access to more financial resources today, promising greater long-term stability and viability. TMAs are more widely and evenly spread out across the nation, although their primary focus continues to be large metropolitan areas and their environs. TMAs in recent years have concentrated more on provid-

ing services directly to commuters, and less on indirect services through employers and regional advocacy.

TMA is an integral part of regional TDM programs in many urban areas of the United States, as well as an increasing number of cities in other parts of the world (Hendricks 2004). TMA is unlikely to grow into an alternative form of governmental entity, as predicted by Leinberger and Lockwood in 1986, however, these highly innovative organizations are likely to maintain an important role as niche TDM service providers in a global economy, or “flat world,” increasingly dominated by large urban agglomerations, which is where TMA seems to thrive best.

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