TRANSPORTATION DEMAND MANAGEMENT

Assets

Issues and Challenges

Background Material for Annapolis Comprehensive Plan
CAC Transportation Meeting, August 2, 2007

Baker

TDM

Assets

A Variety of TDM programs through State, MPOs, ARTMA, City

Big Employers

Issues and Challenges

Cost-effectiveness

Priorities and Focus on Annapolis

Top 20 Greater Annapolis Employers

Anne Arundel County Public Schools	10,500
State of Maryland	9,524
Anne Arundel County Government	4,111
U.S. Naval Academy	2,052
Anne Arundel Health System, Inc.	2,025
ARINC	1,300
Home Depot	1,129
Verizon Communications Maryland	844
City of Annapolis Government	550
Baltimore Gas & Electric	500
Alion Science and Technology	450
Windermere Group LLC	400
USinternetworking, Inc.	365
Capital Gazette Communications Inc.	330
Nordstrom	300
Hecht Company	260
ARC of Anne Arundel Co. Inc. (The)	250
Ginger Cove	250
TeleCommunication Systems, Inc.	250
United States Post Office	231

Sources: http://www.annapolis.gov/info.asp?page=8892

TYPES OF TDM STRATEGIES

Influence Travel by	Strategies
Mode	Carpools, vanpools, transit, bike, walk, car-sharing
Time	Flextime, staggered work hours, compressed work weeks, HOV lanes
Frequency	Linked trips, trial use of alternative modes
Trip Length	HOV lanes, land use design, telecommuting
Convenience	Preferential parking for carpools, vanpools
Regulation	Employee commute options, trip reduction ordinances, regional developments
Route	Congestion pricing, intelligent transportation systems
Cost	Parking pricing, congestion pricing, transit subsidies

Sources: Florida DOT 1996.

PERCEIVED COSTS AND EFFECTIVENESS

Employer-based TDM programs are perceived to be the most cost-effective, but employer support is a barrier.

TDM Programs	Total Cost Index	Total Effectiveness Index
Converting to HOV lanes	0.63	0.23
Toll Roads	0.61	0.20
Public Transportation	0.60	0.31
Park and Ride Facilities	0.37	0.36
Area-wide Carpool/Vanpool	0.31	0.40
Free/Discount Transit Pass	0.31	0.33
Priority Reserved Parking and Parking Discount	0.23	0.41
Flexible Work Hours and Compressed Work Week	0.19	0.42
Tele-commuting	0.21	0.37
Maximum Rating	1.00	1.00

Sources: Sakano, Benjamin, and Ben-Akiva 2003.

EFFECTIVENESS:PRICING vs. SERVICES

Combining financial and service TDM programs is the most effective.
Parking supply affects TDM effectiveness.

Parking Supply Availability	Number of Sites by Type of TDM Program (and Associated Site Versus Ambient Vehicle Trip Rate)				
	Support	Services	Incentives and Disincentives	Services and Incentives	All
Ample	3 (+4.5%)	3 (-10.5%)	7 (-6.9%)	3 (-15.6%)	16 (-7.1%)
Limited	3 (-1.8%)	2 (-5.6%)	9 (-11.0%)	4 (-20.7%)	18 (-11.0%)
Scarce	0 (—)	0 (—)	11 (-26.7%)	4 (-34.0%)	15 (-28.6%)
All	6 (+1.4%)	5 (-8.5%)	27 (-16.3%)	11 (-24.1%)	49 (-15.1%)

Sources: TCRP Report 95, 2003.

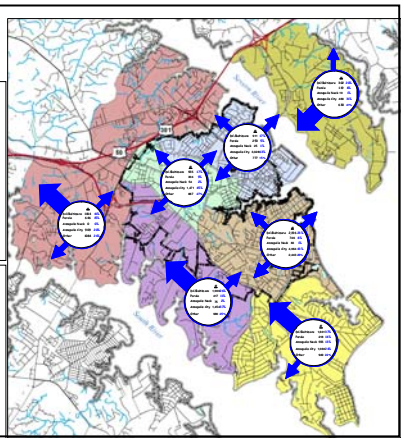
Commuting Patterns

From the study area to

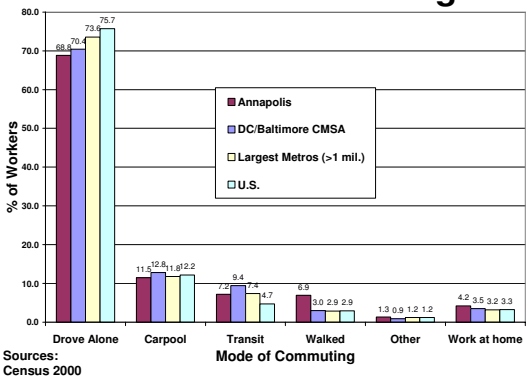
Study Area: 17000 (52%)
Anne Arundel: 6500 (20%)
Baltimore City: 1300(4%)
Balt. Suburbs: 1200 (4%)
DC: 2200 (7%)
DC Suburbs:3700 (11%)
Eastern Shore: 300 (1%)
Other: 500 (1%)

To the study area from:

Study Area: 17000 (31%)
Anne Arundel: 25600 (46%)
Baltimore City: 1800(3%)
Balt. Suburbs: 3400 (6%)
DC: 200 (0%)
DC Suburbs:3800 (7%)
Eastern Shore: 2700 (5%)
Other: 1200 (2%)



Modes of Commuting



Sources:
Census 2000

WASHINGTON METRO COMMUTE

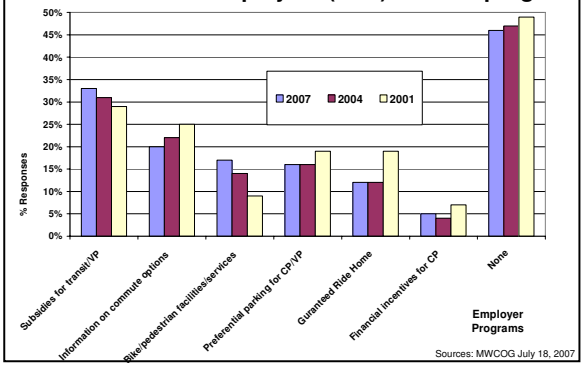
Telework is gaining popularity

Teleworking Status	2007	2004
Currently teleworking	18.7%	12.8%
Number of current Teleworkers	456,000	320,000
Average Number of Days Teleworking Per Week	1.5	1.3
- Job responsibilities allow teleworking and INTERESTED in teleworking ("could and would") for Non-Teleworkers	24%	17%
Number of Non-Teleworkers that "Could and Would" Telework if given the opportunity	570,000	400,000

Sources: MWCOG July 18, 2007

WASHINGTON METRO COMMUTE

Sizable number of employers (54%) offer no program



Sources: MWCOG July 18, 2007

BALTIMORE METRO COMMUTE

Sizable number of employers (77%) offer no program

Survey Response	Small Employers (50-99)	Large Employers (100+)	Total Regional Responses	Percent of All Regional Responses
Provide flexible work hours / days	18 / 24%	56 / 76%	74 / 100%	12%
Provide commuter alternatives info	17 / 27%	46 / 73%	63 / 100%	11%
Provide teleconferencing at work	12 / 20%	47 / 80%	59 / 100%	10%
Provide telecommuting option	17 / 30%	39 / 70%	56 / 100%	9%
Provide guaranteed ride home	19 / 34%	37 / 66%	56 / 100%	9%
Provide financial incentives (subsidies)	13 / 25%	39 / 75%	52 / 100%	9%
Provide proximate commuting option	10 / 24%	32 / 76%	42 / 100%	7%
Sell transit tickets or passes	6 / 15%	33 / 85%	39 / 100%	7%
Provide live near your work option	10 / 29%	24 / 71%	34 / 100%	6%
Operate shuttle service	6 / 18%	27 / 82%	33 / 100%	6%
Market use of carpools or vanpools	4 / 13%	27 / 87%	31 / 100%	5%
Provide preferential parking	3 / 13%	20 / 87%	23 / 100%	4%
Offer ridematching service	6 / 32%	13 / 68%	19 / 100%	3%
Provide other commuting assistance	6 / 43%	8 / 57%	14 / 100%	3%

Sources: BMC, 2004

TDM

Policy Directions

Options for Annapolis Comprehensive Plan
CAC Transportation Meeting, August 2, 2007

Baker

WHICH OBJECTIVES OF TDM

1. REDUCE PEAK TRAFFIC CONGESTION

2. REDUCE TOTAL TRAFFIC

3. IMPROVE AIR QUALITY

4. REDUCE GREENHOUSE GAS EMISSION

TDM OPTIONS

1. REDUCE PEAK CONGESTION

Telework/Alternative Work Schedule

Parking Management and Pricing/Transit Combo

Congestion Pricing

TDM OPTIONS

1. REDUCE PEAK CONGESTION

What It Takes For the City to Do

- Peak-Period Parking Surcharge in Downtown
- Peak-Period Parking Discount in Stadium Lot
- Enhanced Peak Shuttle Services to Downtown
- Enhanced Marketing

TDM OPTIONS

1. REDUCE PEAK CONGESTION

What It Takes For the Employers to Do

- Un-bundle Parking Subsidies
- Telework Program
- Alternative work schedules--flextime/staggered shifts

TDM OPTIONS

2. REDUCE TOTAL TRAFFIC

What It Takes For the City to Do

- Develop a Comprehensive TDM Plan
- Institute a Marking Campaign to Promote Change in Travel Behavior
- Incorporate TDM into the City zoning codes
- Implement TDM Packages Simultaneously

TDM OPTIONS

2. REDUCE TOTAL TRAFFIC

What It Takes For the Employers to Do

- Develop a TDM program
- Change Corporate Culture
- Be a Partner with City, ARTMA