X. FUTURE AGENDA FOR THE PLANNING PROCESS

KEY CHALLENGES FOR CONSIDERATION IN FUTURE LONG-RANGE PLANS

Transportation 2030 has been developed based on the best available information on the future transportation needs of the region. However, there are major issues that go beyond the ability of the BRTB to resolve at this point in time. Some of these are issues requiring additional definition and analysis before practical solutions can be proposed. Other issues lack the public policy guidance needed to develop workable solutions within the time limits set for the development of Transportation 2030.

Issues that go beyond the scope of this plan are regarded as major challenges to be considered in the future. If specific solutions are to be developed, it is necessary that ongoing and concerted efforts be made now to define and deliberate on these unresolved issues.

INTEGRATING TRANSPORTATION AND LAND DEVELOPMENT STRATEGIES

A problem that will continue to challenge us is how to better understand and take advantage of the relationship between transportation and land use. It is becoming increasingly clear, both from national and local studies and trends, that the patterns of development we design and build have a strong influence on household and business activity patterns and travel needs. At the same time, the transportation investment decisions we make strongly influence the types of development patterns that will result. When land uses are mixed to create live/work/shop opportunities in configurations that encourage walking, persons who live or work in those areas are much less likely to rely on crowded regional highways to reach basic services. Taking advantage of development and redevelopment opportunities around existing and planned regional mass transit facilities further reinforces the benefits of this concept by providing another means – transit – of reaching other regional opportunities without driving.

Future planning and research activities at BMC to further explore the opportunities in alternative land use concepts could include:

- Refining existing research results from the 2001 Household Travel Survey linked with improved measures of land use form and function from regional GIS tools to impart new relationships into the regional travel forecasting model, as well as the creation of specialized tools and methods for project analysis.
- Using BMC's involvement in planning for the Red Line to further refine both travel forecasting and general planning tools for TOD.
- Structuring analyses of planning scenarios to examine the effects on regional mobility, congestion and air quality of alternative land use/transportation investment schemes such as transit-oriented development or interconnected regional activity centers.
- Working with individual jurisdictions to identify project opportunities, perform analysis, and incorporate concepts in comprehensive or master plans.

DATA CHALLENGES

Future planning activities will be required to assess and accommodate markedly different travel behaviors, family composition, and workforce characteristics than is currently the case today. As preferences in housing, employment and other quality of life issues change, it becomes increasingly important that transportation

planners capture these characteristics and reflect them in travel demand forecasting. The state of the practice in travel demand forecasting is pushing transportation analysts to simulate travel behavior and socioeconomic patterns at a much smaller geography, even to the level of a single individual. The newest micro-simulation techniques will require planners to forecast demographic and economic characteristics far into the future for even smaller transportation zones that might be composed of areas as small as a couple of city blocks.

The need for greater disaggregation of travel demand model inputs creates a growing need for planners and researchers to develop information at geographic levels where such data does not now exist or the variability of estimates for these data cast serious doubts about their validity. Data created at much smaller levels of detail will require the development of new data sources or the mining of existing data sources and will substantially raise the cost of data development and maintenance. Traditional data sources such as the U.S. Bureau of the Census and the U.S. Bureau of Labor Statistics may not be able to provide a wide array of data products that are necessary for new transportation modeling techniques.

The U.S. Bureau of the Census has eliminated the decennial long-form questionnaire and its associated information at the direction of the U.S. Congress. Its replacement, the American Community Survey, will provide annual long-form information beginning in 2008, but these data will not be released at geographic levels that differ from current offerings and the variability of these data make them suspect. Faced with these prospects, it will demand that state and local planners begin compiling new and existing data at geographic levels and for socioeconomic characteristics that do not now exist. Not only must these new data be developed, but they must be updated on a periodic basis, maintained in accessible databases, and forecasted into the future.

In addition to the need to collect, create, maintain, and forecast travel demand input data at an increasingly detailed level, there is an even more important need to add new characteristics of the human condition to transportation simulation in order to address not only transportation system efficiencies but to address environmental, workforce, and social equity concerns. Changes in the aging of the population, household size, household composition, poverty, racial composition, and overarching social preferences must be taken into account in travel demand forecasting and simulation because these characteristics shape societal behaviors in all areas. Forecasting changes in these characteristics are daunting as a technical exercise and has profound political implications when viewed in a federally-authorized transportation planning practice. Data forecasted for these characteristics will be highly scrutinized for technical accuracy and policy implications by a large number of transportation stakeholders.

The twin challenges of the need for greater detailed data and the development of new socioeconomic modeling inputs will test the technical expertise and pocketbooks of transportation planning agencies in the not too distant future. As the state of the practice in travel demand modeling moves even further into micro-simulation, data and information systems equipment and software costs will grow and could become prohibitive. This prospect requires that today's transportation community begin to identify resources and strategies for addressing these impending challenges.

ENVIRONMENTAL ISSUES

Environmental factors have often been secondary considerations in the development of transportation plans. Because of the growing awareness of the widespread impacts of environmental degradation on the quality of life, public health, and economic stability of the Baltimore region, environmental factors must be considered as primary determinants of transportation solutions instead of secondary mitigation efforts. On the other hand, efforts to protect and enhance the environment should not be used to hamper additional capacity needed

in the transportation network. Streamlining the environmental regulations does not lead to a degradation of the environment; it means coordinating the review of phases of project planning so that the cost to deliver capacity to the public does not become prohibitive.

- BMC staff will continue to identify the potential effects of new federal and state environmental regulations on transportation and land use planning activities in the region.
- An increased understanding by the BRTB of the complex relationships between different types and sources of air pollution must be developed in order to prepare coordinated transportation solutions that support both regional economic growth and environmental objectives.
- Efforts should be increased to develop more user-friendly and equitable ways for meeting federal air quality conformity requirements in the Baltimore region.

FINANCIAL ISSUES

Trends predict that the Baltimore region will experience increasing levels of vehicle miles traveled, further straining the capacity of the transportation system. Prospects are uncertain as to whether any degree of significant new financial resources will be found to fund projects to mitigate increasing travel demand. To overcome these limitations, it may be necessary to incorporate new strategies into the transportation arena.

- Public/private partnerships that draw on unique strengths must be developed to maximize the use of limited financial resources for transportation improvements.
- Efforts should be intensified by state and local governments to control and reduce transportation operating costs by improving the level of coordination between similar transportation services. Such an activity should identify and seek to eliminate legal and policy barriers that limit coordination of transportation services.
- Expanded efforts should be made to study the feasibility of privatizing transportation facilities and services to reduce public costs and, thus, make funds available for more urgent transportation needs.
- New mechanisms must be explored and presented for consideration by state and local officials to ensure the financial viability of the regional transit system. Although the 2001 BRTP projects and programs are affordable under the fiscal capacity forecast, many unknown factors may influence future costs and available revenues. In particular, it is clear that rapidly rising transit operating costs are consuming an ever-expanding portion of the state's Transportation Trust Fund revenues.

Strategies worthy of consideration include the following:

- Reducing transit operating costs through enhanced system efficiencies
- Raising revenues through sales or property taxes, private sector contributions, or taxes levied through a regional transit financing district (which may consist of all or part of the Baltimore region)
- Introducing amenities to enhance the attractiveness of the transit system
- Employing strategies to reduce reliance on the automobile

MOBILITY ISSUES

Much is known about past mobility characteristics, but little is known about how these trends may change in the future. It has generally been assumed that future trends will be similar to those of the past. However, this is not a very reliable assumption on which to base future transportation plans and investment decisions. To ensure that mobility assumptions remain valid, it is necessary to develop a greater understanding of underlying factors.

A continuing effort, through the UPWP, will be made to assess the potential mobility effects of changes in technology, workplace management practices, manufacturing and marketing processes, and consumer lifestyles, attitudes and preferences. This effort should also assess the effects of legislative and policy changes on future mobility options in the Baltimore region.

Continuing analysis should be pursued to define the mobility characteristics and travel needs of special population groups, such as the burgeoning elderly population, the disabled, the economically disadvantaged, and rural residents. Such an analysis must recognize that these special population groups share a common characteristic: they are all dependent on others in varying degrees to meet their mobility needs.

PUBLIC INVOLVEMENT

Long-range planning is based on a continuing transportation planning process. To ensure the future effectiveness and responsiveness of plans, it is essential that further strategies be devised to encourage broader based and more meaningful public involvement in the transportation planning process. Despite continued efforts and new techniques to involve the public, the number of individuals participating in the final round on informational meetings was insignificant. The challenge is to find ways to make long-range and regional level planning relevant to communities and business groups that generally only respond to "bulldozer in the right-of-way" situations. The demand by competing interests on the average family and on two-job wage earners leaves little time for participation in long-range planning meetings, yet the decisions that are set in motion have consequences and the public needs to be involved.

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TRAVEL DEMAND MANAGEMENT (TDM) STRATEGIES

TDM strategies must be developed which seek to modify travel behavior. Local governments and the private sector need to implement TDM strategies in order to reduce the need for building facilities that attempt to meet travel demand projections based on existing travel behavior. Effective public education and outreach techniques are needed to encourage drivers to change their current travel behavior. Transportation Management Associations (TMAs) will be a prime partner in the dissemination of this information. A new impetus to this work activity is the implementation of the new 8-hour ozone standard and the very recent $PM_{2.5}$ standards. These new standards will need to be mitigated once emissions budgets are established in 2007 and 2008.

FREIGHT SERVICES/GOODS MOVEMENT

Efforts should be strengthened to identify the emerging freight movement needs of the region and to develop innovative ways for meeting the special needs of shippers, freight carriers and others involved in intermodal goods movement. In 1998, trucks carried about 71 percent of the total freight tonnage and 80 percent of the total value of US shipments. By 2020, the US transportation system is expected to handle about 23 billion tons of cargo, translating to a doubling of freight in this region. Indications are emerging that some truck-based freight is beginning to be diverted to rail lines, which could provide a significant safety valve to limited capacity on the region's key facilities. Rail infrastructure is aging and needs to be maintained at a higher level to meet this growing need; there are also issues with aging tunnels and lack of double stack capacity. These issues need to be explored and to be coordinated in a multi-state fashion due to the cost of improvements and to gain a better understanding of where bottlenecks are located in the system.