HIGHWAY & INTERCHANGE EVALUATION CRITERIA

Evaluation Category	#	Criteria	Meaning	Source	Point Values
Safety (20 Points)	1a	Crash Frequency	Measure the rate of total crashes according to VMT and log miles	SHA Crash Records	0-10
	1b	Crash Severity	Measures the rate of injuries and fatalities according to VMT and log miles	SHA Crash Records	0-10
Congestion (15 Points)	2	Congestion Index	Measures peak congestion per day	Output of BMC Travel Demand Model (2000 and 2035 no build)	0-15
Demand (15 Points)	3	Peak Demand	Measures peak one-hour volume per through lane	Output of BMC Travel Demand Model (2000 and 2035 build)	0-15
Accessibility (10 Points)	4	Travel Time Savings	Measures amount of travel time projected to be saved by implementing the project	Output of BMC Travel Demand Model (2035 no build vs. build networks)	0-10
Cost Effectiveness (15 Points)	5a	Capital Cost Effectiveness	Assesses cost per person mile of travel (PMT)	• BMC Travel Demand Model (2035) • Costing Methodology	0-8
	5b	Operating and Maintenance Cost Effectiveness	Assesses operating and maintenance cost per person mile of travel (PMT)	BMC Travel Demand Model (2035)	0-7
Connectivity (10 Points)	6a	Roadway	Assesses connectivity of project to National Highway System and project's ability to improve freight mobility	BMC Staff Analysis	0-7
	6b	Transit	Assesses connectivity of project to improve transit mobility	BMC Staff Analysis	0-3
Environment (15 Points)	7a	Air Quality Benefit	Assess impact of TDM component of project on air quality	• BMC Travel Demand Model (2035) • BMC Staff Analysis	0-10
	7b	Natural Resources	Assess impact of project on natural resources	BMC Staff Analysis	0-5
				Total Maximum Points:	100

Current as of 3/7/07

HIGHWAY & INTERCHANGE EVALUATION CRITERIA

TRANSPORTATION OUTLOOK 2035
Creating a Blueprint for the Baltimore Region's Future

Brief explanation of methodology

1: Safety (20 points)
1a - Crash Frequency: Calculate the average number of total crashes per year based on available crash data for the years 2003-2005. Divide average by 2005 VMT and rank results. Divide average by log miles and rank results. Add results and score. Note: For new roads, an existing parallel facility is used. (Also applies to Crash Severity criteria.)
1b - Crash Severity: Calculate the average number of crashes resulting in either injury or fatality per year based on crash data for the years 2003-2005. Divide average by 2005 VMT and rank results. Divide average by log miles and rank results. Add results and score.

2. Congestion (15 points)
Determine the maximum hourly volume/capacity (V/C) ratio of the 5 time periods year 2035. Projects with the highest V/C will score the maximum number of points. Projects will be ranked and scored on a relative scale based on percentile rank.

3. Demand (15 points)
Calculate peak hour traffic in the peak direction on a facility for year 2035 build alternative. Divide by the number of available through lanes of roadway. Rank projects according to the peak hour volume per through lane, and score.

4. Accessibility (10 points)
Calculate differences in delay between no build and build alternatives for year 2035. A greater travel time savings equals greater points.

5. Cost Effectiveness (15 points)
5a & 5b - Calculate VMT for each project. Convert VMT to person miles of travel (PMT). Calculate capital cost and operating costs for each project using costing methodology. Divide cost by PMT. Lowest cost per PMT receives the highest points.

6. Connectivity (10 points)
6a - Roadway: Award project 7, 5, 3, or 0 points based upon it's relevance to NHS and freight movement.
6b - Transit: Award 0, 1.5, or 3 points for a project's ability to provide bus or rail service in a corridor or provides improved service to existing transit stations or routes.

7. Environment (15 points)
7a - Air Quality Benefit: Assess impact of TDM component (HOV facility, park-&-ride, ITS, roundabout, ramp metering, reversible lanes, bike/ped) of project on air quality. (0-10 points)
7b – Natural Resources: Assess project relationship to ecologically significant lands (i.e., GreenPrint program) (0-5 points)

RAIL TRANSIT EVALUATION CRITERIA

TRANSPORTATION OUTLOOK 2035
Creating a Blueprint for the Baltimore Region's Future

Evaluation Category	#	Criteria	Meaning	Source	Point Values
Safety (5 Points)	1	Safety	Assesses impact of project on roadway, transit, pedestrian, and bicycle safety.	BMC Staff Analysis	0-5
Congestion (10 Points)	2	Potential to Alleviate Congestion in AM Peak Hour	Assesses impact on traffic flows, particularly in major corridors or highly congested areas.	• BMC Travel Demand Model • BMC staff analysis (based on congestion mapping)	0-10
Demand (15 Points)	3	Demand	Measures demand according to number of riders per mile.	• BMC Travel Demand Model	0-15
Accessibility (25 Points)	4a	Job Accessibility	Measures increase in jobs accessible as a result of project.	• BMC staff analysis	0-15
	4b	Modal Shift	Measures mode shift of trips from highway to transit as a result of project.	• BMC staff analysis	0-10
Cost Effectiveness (15 Points)	5a	Capital Cost Effectiveness	Assesses capital cost per rider.	• BMC Travel Demand Model (2035) • BMC project costing methodology (based on MDOT Revised Costing Methodology)	0-10
	5b	Operating and Maintenance Cost Effectiveness	Assesses operating and maintenance cost per rider.	• BMC Travel Demand Model (2035) • BMC project costing methodology (based on MDOT Revised Costing Methodology)	0-5
Connectivity (25 Points)	6a	Intraregional Transit	Assesses connectivity of project to intraregional transit system.	BMC Staff Analysis	0-15
	6b	Interregional Transit	Assesses connectivity of project to interregional transit system.	BMC Staff Analysis	0-10
Environment (5 Points)	7a	Air Quality Benefit	Assesses impact of project on air quality.	• BMC Travel Demand Model (2035) • BMC Staff Analysis	0-3
	7b	Natural Resources	Assesses impact of project on natural resources.	BMC Staff Analysis	0-2
				Total Maximum Points:	100

Current as of 3/7/07

RAIL TRANSIT EVALUATION CRITERIA

TRANSPORTATION OUTLOOK 2035
Creating a Blueprint for the Baltimore Region's Future

Brief explanation of methodology

1: Safety (5 points)
Assess impact of project on safety by assigning 2 points for every safety feature to a maximum of five points: dedicated right-of-way, double tracking, grade separation, etc.

2. Congestion (10 Points)
Assess impact of candidate project in reducing AM Peak congestion. Refer to ridership per mile, 2035 level of service congestion maps, and Skycomp data. Rank and score. Project with higher demand receives higher points.

3. Demand (15 points)
Forecast average number of daily riders per mile on candidate facility for 2035. Rank and score. Projects with higher numbers of riders receive higher points.

4. Accessibility (25 points)
Job Accessibility: Estimate increased number of jobs accessible as a result of the project.
Modal Shift: Estimate number of trips shifted from highway to transit as a result of project. Refer to 2035 level of service congestion maps and Skycomp data.

5. Cost Effectiveness (15 points)
5a – Capital Cost Effectiveness (10 points): Forecast average number of daily riders on candidate facility for 2035. Divide by estimated capital cost. Rank and score. Projects with higher rider/cost ratio receive higher points.
5b - Operating and Maintenance Cost Effectiveness (5 points): Forecast average number of daily riders on candidate facility for 2035. Divide by estimated operating and maintenance cost. Rank and score. Projects with higher rider/cost ratio receive higher points.

6. Connectivity (25 points)
6a - Intraregional Transit (15 points): Award 1 point for every intraregional transit Rail line directly served and ½ point for every Local Bus line directly served.
6b - Interregional Transit (10 points): Award 2 points each for direct service to AMTRAK or BWI and 1 point for every MARC station.

7. Environment (5 points)
7a - Air Quality (3 points): Assess impact of project on air quality. Use transit ridership to establish order of magnitude benefits.
7b - Natural Resources (2 points): Assess proximity of project to established boundaries for sensitive areas (i.e., GreenPrint program, drinking water reservoir watersheds).

BICYCLE AND PEDESTRIAN EVALUATION CRITERIA

Evaluation Category	#	Criteria	Meaning	Source	Point Values
Demand (40 Points)	1	Demand	Assessment of demand based on proximity to trip generators.	• 1999 BMC Bicycle Latent Demand Assessment Study • BMC Staff Analysis	0-40
Transportation Need (25 Points)	2	Connectivity	Assessment of the degree to which projects meet various bicyclist and pedestrian needs.	• BMC Staff Analysis	0-25
Bike/Ped Stress Levels (25 Points)	3	Safety	Assessment of perceived bicyclist safety.	• 2004 BMC Bicycle Suitability Evaluation of Roadways • BMC Staff Analysis	0-25
Directness (10 Points)	4	Directness	Assessment of the difference between the length of proposed facility and the shortest existing route.	• BMC Staff Analysis	0-10
				Total Maximum Points:	100

Current as of 3/7/07

BICYCLE AND PEDESTRIAN EVALUATION CRITERIA

TRANSPORTATION OUTLOOK 2035
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Brief explanation of methodology

1. Demand (40 points)
Assessment of proximity to large population and employment concentrations as well as locations that generate large numbers of bicycle and pedestrian trips – colleges and universities, public schools, and parks - based on the potential trip market estimated in the 1999 BMC Bicycle Latent Demand Assessment Study. LDS score measures the relative demand. Using the 1999 BMC Bicycle Latent Demand (LDS) Assessment Study, compile the scores of the segments closest to the proposed project. Segments weighted based on length. Projects with the highest LDS receive the most points. For projects that are not located along the study network, the scores from the trip market of nearby segments are to be used.

2. Connectivity (25 Points)
Assessment of degree to which projects meet various bicyclist and pedestrian needs. Based on these criteria developed through the BRTB's Bicycle and Pedestrian Advisory Group: Assess degree to which project eliminates a travel barrier, such as a freeway or river; to which it completes a link in the transportation network; to which it establishes the start of a new system and to the degree which it provides a connection to existing bus or rail service.

3. Safety (25 Points)
Assessment of perceived safety based 2004 Bicycle Suitability Evaluation of Roadways. BLOS score was based on roadway characteristics that affect comfort of bicyclists, including curb lane width, traffic volume, vehicle speed, pavement condition, and percentage of truck traffic. Segments weighted based on length. Projects with the poorest Bicycle Level of Service – i.e. the conditions least comfortable for bicyclists – receive the most points. For projects that are not located along the study network, scores from an existing parallel route will be used.

4. Directness (10 Points)
Assess length of the proposed project and divide it by the length of the route that a bicyclist or pedestrian would currently have to travel to reach the origin and destination served by the proposed project. Projects that shorten the travel distance receive the most points.