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**Transportation and Land Use Technical Work Group
Summary List of Draft Priority Policy Options for Analysis**

Draft Option #	Draft Policy Option Name	Straw Proposal Volunteers
TLU-1	Improved Planning and Development Strategies	TBD
TLU-2	Improved Infrastructure	TBD
TLU-3	Biofuels (<i>Potential overlap with ES-2 and AFW-7</i>)	TBD
TLU-4	Infrastructure Management	TBD
TLU-5	Climate-Friendly Transportation Fees	TBD
TLU-6	Adopt CA Clean Car Standards	TBD
TLU-7	“Fix-it-First” (Repair before new infrastructure)	TBD
TLU-8	Update Road Standards	TBD
TLU-9	Commuter Choice/Parking Cash Out/required employer TDM plans	TBD
TLU-10	Congestion Pricing (or tolls) (w/ targeted use of revenue towards travel alternatives)	TBD
TLU-11	Truck Stop Electrification	TBD
TLU-12	Mobile Source Emissions Reduction	TBD
TLU-13	Reduced Speed limits	TBD

TLU-1 Improved Planning and Development Strategies

Policy Description

Implement land use planning and development that supports protection of natural and cultural resources, strengthens communities, creates more compact development, and reduces growth in driving and emissions.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

- Infill and Brownfield Development

Residential and commercial development on infill typically results in less vehicle travel and emission as compared to development on lower density exurban or “greenfield” locations. Households and workers in areas with higher density and mixed uses typically take shorter trips and have more alternatives to automobile travel. “Brownfields” are one type of infill location – commercial or industrial properties that are abandoned or are not being fully used because of actual or perceived environmental contamination.

- Transit-Oriented Development

Transit oriented development enables shifts to lower emitting transportation modes by building compact, mixed-use development clustered around transit stops. This option would promote transit oriented development through incentives and/or regulation. Governments could require that planning/zoning for transit oriented development accompany new high capacity transit investments.

- Smart Growth Planning, Modeling and Tools

Plan for the orderly and economical development of the metropolitan region and manage growth in a way that ensures efficient delivery of regional services. Under state law all metropolitan area communities must prepare local comprehensive plans which are consistent with regional plans.

- Targeted open space protection

Targeted open space protection includes programs designed to protect and conserve State lands and other open spaces, and develop and improve neighborhood, community, and regional parks in ways that encourage location-efficient growth and broader mode choice. This option could

also include policies to discourage the expansion of urban growth areas or urban growth boundaries. Policies that increase the value of rural resource lands for agricultural or forestry uses to serve local markets can promote these objectives.

- **Priority Areas Designated For Planned Growth**

The State of Minnesota should designate planned growth areas that will receive priority in all forms of state funding programs. In order to qualify, the areas must have land use plans and regulations in effect that provide for certain levels of compact, mixed use forms of development, adequate transit choices, and natural area protection. More efficient development patterns reduce VMT and help conserve natural resource land and natural areas. This strategy aims to limit the urban growth areas while increasing residential density. Residents living in neighborhoods with higher population density tend to drive less than those living in lower density neighborhoods. This is a result of both shorter trips (because housing and commercial uses are in closer proximity to one another in higher density neighborhoods) and use of alternative travel models (because higher density neighborhoods tend to offer better walking, bicycling, and transit options). Governments can promote increases in residential density through a number of planning activities, incentives, and/or regulatory changes.

Related Policies/Programs in Place

Recent Actions in MN:

- Metropolitan Livable Communities Program Tax Base Revitalization Account grants have funded projects throughout the metropolitan area to clean up polluted land and buildings for redevelopment, creating new jobs and affordable housing, and directing growth to central cities and older suburbs where costly infrastructure is already in place.
- Metropolitan Livable Communities Program provides Livable Communities Demonstration Account grants to metropolitan area communities for projects that result in connected development patterns that link housing, jobs and services, and use regional infrastructure efficiently. Many projects served by bus and LRT infrastructure have been funded.
- Minnesota Housing has a priority for housing development located near transportation, including regional and interregional transportation corridors and transit-ways.
- The MC's *2030 Regional Development Framework* and the policy plans that implement it are intended to help accommodate the region's growth in an orderly, efficient manner and guide the expansion of four regional systems: transportation; aviation; water resources (inc. wastewater collection and treatment) and regional parks and open space.
- Minnesota Housing has a priority for housing development in proximity to existing development and services, protecting environmental resources and promoting compact development.
- Some counties have sold bonds to protect open spaces. MC plans to increase regional park and open space system from 53,000 acres to 80,000 acres.
- Minnesota Housing supports new development that is not located near wetlands, steep slopes, critical habitat, or on prime farmland or park land.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:**
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-2 Improved Infrastructure

Policy Description

Greater use of alternative modes of travel and reduction in single occupancy vehicle (SOV) travel, and thereby reduction in GHG emissions, can be achieved by expanding public transit infrastructure (e.g., rail lines, bus rapid transit routes), improving transit service, improving and promoting bike and pedestrian infrastructure, and promoting the use of high occupancy vehicle (HOV) lanes, and providing additional incentives.

Policy Design

Goals: TBD; Increase funding to implement Metropolitan Council's Transit Plan by 2020

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

- Improve Existing Transit Service

Greater use of public transit and reduction in automobile travel can be achieved by improving existing transit service (e.g., expanded hours or coverage of bus service, higher frequency bus routes. This option also could include expansion of intercity bus service. Use of MNDOT data on travel origins and destinations could help determine if there are intercity regional routes that need prioritization.

- Transit Marketing, Promotion, and Pricing Incentives

Greater use of public transit and reduction in automobile travel can be achieved by enhanced promotion and marketing of transit, or through reduction in transit fares.

- Bike and Pedestrian Infrastructure Improvements

Improving, adding, and promoting sidewalks and bikeways can increase the pedestrian and bicycle activity and reduce automobile use. Infrastructure improvements could include bicycle parking and shower/locker amenities at places of employment. Local government "complete streets" policies would help to achieve these improvements.

- Expand Transit Infrastructure

Greater use of public transit and reduction in automobile travel can be achieved by expanding public transit infrastructure (e.g., rail lines, bus rapid transit routes). This option also could

include expansion of intercity bus service. Use of MNDOT data on travel origins and destinations could help determine if there are intercity regional routes that need prioritization.

- HOV Lanes
- Expand Transit Use

For-profit corporations are eligible for a 30% income tax credit for funds expended to subsidize transit fares for their employees through marketing plans such as the Metropolitan Council's Metropass Program. Non-profits should be allowed to similarly benefit for helping to subsidize their employees' use of transit.

- Transportation Demand Management

Transportation demand management (TDM) strategies focus on changing travel behavior – trip rates, trip length, travel mode, time-of-day, etc. Most TDM projects and programs reduce emissions by reducing trips and/or vehicle miles traveled (VMT) by personal motor vehicles, or by shifting trips from peak periods to less congested periods.

Related Policies/Programs in Place

Recent Actions in MN:

- MC/TAB programmed \$95.6 million in Enhancement and STP funds since 1992. Transit for Livable Communities is implementing a \$25 million federal pilot program for bicycling/walking. This year the MC expects to program \$16 million in Enhancements funding and \$92 million in STP funding, a portion of which will go toward bicycle commute infrastructure in the 2007 solicitation.
- MC has a goal of doubling transit ridership by 2030 and increasing it by 50% by 2020. Improvements in clued additions of LRT, commuter rail, BRT and increased regular bus route service to reach this goal. In 2006 Minnesota voters approved a constitutional amendment requiring dedication of motor vehicle sales tax funds to transit which will result in increased finding.
- MC region has 2 HOV lanes (I-394 and I-35W). I-394 is a HOT lane which allows SOV's to use the HOV lane for a fee. MC and MNDOT are working on a HOT lane study; construction of I-35W/62 Crosstown commons section beginning this year. MOU between MC and MNDOT to consider additional HOT lanes in future highway improvements.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-3 Biofuels

Policy Description

The state can adopt standards that require a certain amount or percentage of fuel sold within the state to be a renewable fuel (e.g., ethanol or biodiesel). This percentage can gradually increase over time. The State can help facilitate transition to renewable fuels by regulating quality standards for fuel blends.

This option could also promote R&D related to biofuels production, such as the use of enzymes for breaking down cellulose to produce ethanol (as opposed to corn-based ethanol, which has a lower life cycle benefit).

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- Metro Mobility uses the highest level of biofuel allowable by operating conditions and vehicle manufacturers.
- B5 used by Metro Transit
- Testing B20
- Considering use of B10 by mid-2007 pending B20 test results.
- Looking for other engine technology that uses other types of renewable fuels.
- Formation of the NextGen Energy Board to determine how state can invest most efficiently to achieve energy independence - \$90 million from 2010 – 2020
- Ethanol. Minnesota established an ethanol production incentive to provide payment to producers to help develop a new market for Minnesota's agricultural products. On the market side, Minnesota requires that all gasoline sold in the state be blended with a 10% ethanol mix. In addition, Minnesota began efforts in 1997 to develop a network of fueling stations for flex fuel vehicles that could run on an 85% ethanol blend. Today Minnesota has over

three hundred E85 fueling stations around the state that together sold a total of \$18,160,000 gallons of E85 blended gasoline during 2006.

<http://www.pca.state.mn.us/programs/ethanol.html>;

<http://www.pca.state.mn.us/programs/ethanol.html#links>

- Biodiesel. According the U.S. Department of Energy, biodiesel has the most favorable energy balance of any transportation fuel. For every unit of energy needed to produce a gallon of biodiesel, 3.2 units of energy are gained. As of September 29, 2005, Minnesota requires nearly all diesel fuel sold in the state to contain at least a 2 percent biodiesel blend. It is estimated that the 2% fuels use requirement for Minnesota will replace 16 million gallons of diesel fuel. *Minn. Stat. § 239.77*; <http://www.pca.state.mn.us/air/cleanfuels.htm>; <http://www.mda.state.mn.us/renewable/biodiesel/default.htm>

Types(s) of GHG Reductions

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TBD

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- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-4 Infrastructure Management

Policy Description

Transportation system management improves vehicle flow on the roadway system, which can reduce fuel use and GHG emissions. Coordinated operation of the regional transportation network can improve system efficiency, reliability, and safety. Tools to reduce traffic congestion include HOV lanes, roundabouts at intersections, synchronized signals, incident management, variable message signs, and other forms of intelligent transportation systems (ITS).

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- With CMAQ funds, Minneapolis has implemented computerized traffic signals for better traffic flow. The 2007 CMAQ solicitation contains a funding program for TSM. Freeway on-ramp metering program.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-5 Climate-Friendly Transportation Fees

Policy Description

Implement a series of policies to change the fixed costs of automobile ownership to reflect the costs related to VMT and emissions, including CO₂-based registration fees, a fuel tax, VMT tax or pay-as-you drive insurance. Such policies can reduce the cost differential between a SOV trip and a public transit trip and direct financial reward for individuals who reduce VMT or purchase low-GHG vehicles. Additionally, revenue resulting from these policies could, in turn, fund transit and other transportation alternatives for further emissions reductions.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

- CO₂-Based Registration Fees

The state could adopt a variety of programs to increase purchase of fuel-efficient or low-GHG vehicles (including pure electric, hybrid, plug-in hybrid, and other alternative fuel vehicles). State incentives could include registration fees, feebates, and/or tax credits. Higher vehicle registration fees can be charged for vehicles that have lower fuel economy, and/or vehicles that use alternative fuels or hybrid vehicles could be charged a lower vehicle registration fee. Vehicle licensing fees could be based upon vehicle weight, with use of a dollar per vehicle-ton multiplier instead of the present broad categories of vehicle weight.

- VMT Tax

The state would charge a tax reflective of miles traveled by passenger vehicles. In addition, revenues could be used to fund transit and other transportation alternatives within a corridor or region.

- Pay-as-You-Drive automobile insurance

The state would encourage and support the provision of pay-as-you-drive auto insurance, possibly including state support for additional pilot programs. This would also require the state commission to conduct an active review of possibilities.

- Increase Motor Fuel Taxes

Increasing the state tax on conventional fuels can reduce consumption and travel while encouraging the use of lower emissions vehicles, alternative fuels, and public transit. In addition, revenues can be used to fund transit and other transportation alternatives within a corridor or region.

Related Policies/Programs in Place

Recent Actions in MN:

- MNDOT currently studying the VMT finance mechanism.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-6 Adopt CA Clean Car Standards

Policy Description

Tailpipe emissions standards are also known as the “Pavley” standards or the California GHG Emissions Standards. These standards can be adopted to reduce GHG emissions from new light-duty vehicles. New cars and light trucks in all states must comply with federal emission standards, and, generally speaking, states have the choice of adopting a stronger set of standards applicable in California. The standards require manufacturers to meet a declining fleet-wide average standard for GHG emissions per mile. A state can also include other smog- and soot-forming pollutants in this plan. If the California standards are made more stringent, Minnesota could adopt these as well.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-7 “Fix-it-First” (Repair before new infrastructure)

Policy Description

Rather than prioritize funding for capital expansion projects, “Fix it First” encourages funding allocation to preservation and management of the existing system.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- Regional highway plan in MC Transportation Policy Plan states that highway expansion investments are only considered after preservation and management investments have been funded.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-8 Update Road Standards

Policy Description

The standards for roads should be changed to reduce stop-and-start movements and to improve the multimodal use of rights-of-way. This would entail reducing some speeds, the use of roundabouts, and aspects of the ‘Complete Streets’ campaign.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-9 Commuter Choice/Parking Cash Out/required employer TDM plans

Policy Description

Commuter Choice Programs encourage employers to provide options such as telecommuting, transit subsidies, pre-tax transit fare program, parking cash-out, and guaranteed ride-home service in order to reduce automobile commutes. The telecommuting option includes the development and utilization of neighborhood telecommuting centers that offer office-type services in locations close to commuters' residences. As an incentive to develop and provide such services, a tax credit can be offered to companies.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- Employee Discount Transit Passes. Metro Transit offers passes for regular route bus service for sale to employers at a 30% special discount rate for their employees to promote mass transit and reduce both congestion and emissions in the Metro area.
<http://www.metrotransit.org/groupDiscProg/metroPass.asp>

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-10 Congestion Pricing (or tolls) (w/ targeted use of revenue towards travel alternatives)

Policy Description

Roadway tolling can be used to discourage single-occupant automobile use and provide revenue for alternative modes. If tolls or other user charges vary with congestion levels (congestion pricing), they can also be particularly effective at reducing congestion. Various forms of VMT-based user fees can also help to discourage unnecessary automobile use. Roadway pricing revenues can help fund needed highway improvements and help manage system-wide demand. In addition, pricing revenues can be used to fund transit and other transportation alternatives within a corridor or region.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- I-394 is HOT lane. MOU between MC and MNDOT to consider additional HOT lanes in future highway improvements.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-11 Truck Stop Electrification

Policy Description

Reduce idling-induced emissions from heavy-duty diesel trucks by providing electrical hook-ups to power heating, cooling, and other needs while stopped.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

Recent Actions in MN:

- Idle Reduction Program. The MPCA, in cooperation with the U.S. EPA, offers loans to help small trucking companies pay for idle reduction devices such as auxiliary power units. This equipment can reduce fuel consumption by 75 percent, which conserves resources, helps achieve energy independence, and reduces the emissions that contribute to soot and smog. During 2006, 30 loans were issued ranging from \$7,500 to a maximum of \$50,000.
http://www.pca.state.mn.us/programs/sbomb_loan.html

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-12 Mobile Source Emissions Reduction

Policy Description

Support on-going and new reduction options to achieve immediate and direct emissions reduction from mobile sources (e.g., Project Green Fleet school bus retrofit) that can be done without legislation or regulation. This will bolster prior investments of local, state and federal governments in Minnesota and leverage significant federal, private and foundation support.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

TLU-13 Reduced Speed limits

Policy Description

Reduced vehicle speeds improve fuel economy, reduce CO2 emissions, and improve safety. Significant enforcement resources may be needed for this measure to achieve the expected reductions.

Policy Design

Goals: TBD

- **Timing:** TBD
- **Parties Involved:** TBD
- **Other:** TBD

Implementation Mechanisms

TBD

Related Policies/Programs in Place

TBD

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD

- **Data Sources:** TBD
- **Quantification Methods:** TBD
- **Key Assumptions:** TBD

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD