Introduction
The MARC Board adopted a vision of sustainability, specified through an array of policies, principles and plans. The transportation plan includes goals associated with air and water quality, natural resource conservation, climate change and energy use, place-making and public health. The Creating/Planning Sustainable Places programs articulate triple-bottom-line principles for decision-making. Board adoption of MetroGreen, the Eco-Logical Action Plan and a complete streets policy further reflect strong support for environmental concerns.

Needs/Gaps
A clear need exists to better integrate environmental conservation and restoration with other regional goals. More deliberate focus on air and water quality protection is needed to meet multiple local goals while working to comply with federal regulations. Opportunities to advance the three strategies outlined below - MetroGreen, Green/Complete Streets and Climate Protection and Adaptation – will enable the Kansas City region to achieve progress on multiple fronts through a collaborative, multi-benefit, multi-objective approach.

Strategies
MetroGreen Implementation
Approximately 250 miles of MetroGreen corridors have been developed as part of the 1,144-mile system. From an environmental perspective, active natural resource management along these corridors is necessary to maximize benefits associated with air and water quality, energy conservation, and greenhouse gas emissions reduction.

An update to MetroGreen using new natural resource inventory data would facilitate the identification of natural resource conservation and restoration priorities. An implementation and funding “quilt” would be then identified to advance strategic priorities. Key among them would be the development of an ecosystem-based programmatic mitigation plan, as called for in the 2009 Eco-Logical Action Plan. Overlays of the MetroGreen and transportation plans would help identify opportunities to protect or restore natural resources. Development of new integrated land use – transportation – environmental planning approaches would then help find new ways to achieve shared goals at both the regional and local levels.
Objectives:

1. Adopt MetroGreen conservation and restoration priorities.
2. Assess opportunities to maximize shared conservation and transportation priorities.
3. Assess impact of employment and population forecasts on natural resources.
4. Develop planning and decision-making processes to facilitate implementation of a programmatic mitigation plan (e.g. project selection and funding criteria, project planning and design processes, use of sustainable infrastructure rating systems such as ENVISION, exploration of market-based credit trading).
5. Leverage Planning for Sustainable Places initiative to pilot new planning and design approaches.
6. Conduct targeted workshops with local stakeholders to explore opportunities and challenges associated with implementation.
7. Adopt clear performance metrics and targets.

Figure 1. MetroGreen corridors intersect in multiple ways, and at multiple scales, with natural resource conservation and restoration priorities.

Green/Complete Streets:

MARC’s complete streets policy seeks to “to achieve the region’s vision of safe, balanced, multimodal, equitable transportation system that is coordinated with land use planning and protective of the environment by implementing Complete Streets with context-sensitive solutions.” To date, approximately ten communities have adopted complete street policies.
Green streets are supported through several adopted policies and planning tools. The MARC/APWA Manual of Best Management Practices to Protect Water Quality provides an initial set of planning guidelines to incorporate water quality protection as part of infrastructure development. After the publication of Assessing Urban Forest Effects and Values: the Greater Kansas City Region, a flexible urban forestry policy framework was endorsed by the MARC Board, including calls to increase canopy coverage through streetscaping, forest protection, and other mechanisms.

Opportunities exist to work with the planning and design communities to integrate “green” and “complete” streets concepts. Strategies associated storm water management, urban heat island abatement, streetscaping and urban forestry each could be incorporated to maximize environmental benefits while at the same time as creating transportation facilities that are accessible to all users.

Objectives:
1. Assess best practices (e.g. codes, planning, design, and project rating systems) regarding the linkage of complete and green street approaches.
2. Conduct targeted workshops with local stakeholders to explore opportunities and challenges associated with implementation.
3. Develop a policy, planning and design framework to facilitate implementation of best practices
4. Leverage Planning for Sustainable Places initiative to pilot new approaches.

Climate Protection and Adaptation
Transportation Outlook 2040 sets a Climate Change & Energy Use policy goal to decrease the use of fossil fuels through reduce travel demand, technology advancements and a transition to renewable energy sources. The City of Kansas City, Missouri and Johnson County, Kansas each recently completed greenhouse gas emissions inventories. Each also adopted aggressive GHG emissions reduction goals.

From a transportation perspective, threats of extreme weather events (heat, drought, flooding, tornado) pose substantial environmental, economic, and public health and safety risks. To that end, regional planning would benefit from an assessment of potential impacts of extreme weather on transportation infrastructure. Often cited resiliency strategies such as green infrastructure, heat island abatement, alternative fuels and fleets and alternative transportation might constitute some of the strategies necessary to reduce future risks while creating other near-term community benefits.

Objectives:
1. Build regional partnerships including such universities, federal, state and local agencies, and non-profit organizations to evaluate potential risks and uncertainties in the transportation sector. Local greenhouse gas inventories and climate protection plans may serve as a valuable starting point for analysis.
2. Conceptualize an integrated, multi-sector, multi-benefit planning framework to maximize climate mitigation and adaptation benefits.
3. Identify preliminary action steps to facilitate implementation, perhaps beginning with the intersection of water resource and transportation system management.