600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

Meeting: Metro Policy Advisory Committee (MPAC)
Date: Wednesday, Nov. 9, 2011
Time: 5 to 7 p.m.
Place: Council Chambers

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5 PM	**1.**		**CALL TO ORDER**	**Charlotte Lehan, Chair**
5:02 PM	**2.**		**SELF INTRODUCTIONS & COMMUNICATIONS**	**Charlotte Lehan, Chair**
5:05 PM	**3.**		**CITIZEN COMMUNICATIONS ON NON-AGENDA ITEMS**	
5:10 PM	**4.**		**COUNCIL UPDATE**	
5:15 PM	**5.**	*	**CONSIDERATION OF THE OCT. 26, 2011 MPAC MINUTES**	
5:20 PM	**6.**	*	Presentation on Sustainable Urban Development and Parks and Open Space Design in China– INFORMATION • *Outcome*: An informational presentation.	**Tom Hughes, Metro Council Jie Hu, Tsinghua Urban Planning & Design Institute, China**
5:50 PM	**7.**	*	Comments on Draft Amendments to the Oregon Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP) – RECOMMENDATION TO THE METRO COUNCIL REQUESTED • *Outcome*: Review TPAC and MTAC comments on the draft letter and approve comments for submittal to the Oregon Transportation Commission (OTC) and Land Conservation and Development Commission (LCDC).	**Tom Kloster**
6:20 PM	**8.**	*	Climate Smart Communities Scenarios – Report on Preliminary Findings and Next Steps – INFORMATION/DISCUSSION • *Outcome*: MPAC understanding of preliminary findings in preparation for Dec. 2 work session.	**Kim Ellis**
6:55 PM	**9.**		**MPAC MEMBER COMMUNICATION**	
7 PM	**10**		**ADJOURN**	**Charlotte Lehan, Chair**

* Material included in the packet.

For agenda and schedule information, call Kelsey Newell at 503-797-1916, e-mail: kelsey.newell@oregonmetro.gov. To check on closure or cancellations during inclement weather please call 503-797-1700.

For transit options, visit TriMet's web site at www.trimet.org. Metro is serviced by TriMet buses 6, 8, 10 and 70. Click here for a list of parking options for visitors conducting business at the Metro Regional Center.

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2011 MPAC Tentative Agendas

Tentative as of Nov. 2, 2011

MPAC Meeting November 9 • Oregon Highway Plan (OHP)and Transportation Planning Rule (TPR) Amendments (action) • Climate Smart Communities Scenarios – preliminary findings, strategy toolbox (information/discussion) • Presentation by Prof. Hu Jie, of Tsinghua University Planning and Design Institute in Beijing (information) **Associated Oregon Counties Annual Conference** **November 15-17, Location to be determined**	**MPAC Meeting** November 23 (Cancelled)
Joint MPAC/JPACT workshop December 2 • Climate Smart Communities Scenarios	**MPAC Meeting** December 14 • Climate Smart Communities • Growth Distribution • Sustainable City Year (Robert Liberty)
MPAC Meeting December 28 (Cancelled)	

2012 MPAC Tentative Agendas

Tentative as of Nov. 2, 2011

MPAC Meeting January 11 • Climate Smart Communities (endorse Briefing Book and transmittal letter)	**MPAC Meeting** January 25 • *Southwest Corridor Project Update and Land Use Work*
MPAC Meeting February 8	**MPAC Meeting** February 22

MPAC Meeting March 14	**MPAC Meeting** March 28
MPAC Meeting April 11	**MPAC Meeting** April 25
MPAC Meeting May 9	**MPAC Meeting** May 23
MPAC Meeting June 13	**MPAC Meeting** June 27
MPAC Meeting July 11	**MPAC Meeting** July 25
MPAC Meeting August 8	**MPAC Meeting** August 22
MPAC Meeting September 12	**MPAC Meeting** September 19
MPAC Meeting October 10	**MPAC Meeting** October 24
MPAC Meeting November 14	**MPAC Meeting** November 28
MPAC Meeting December 12	**MPAC Meeting** December 19

Projects to be scheduled:

- East Metro Connections Plan
- Community Investment Initiative
- Industrial and employment areas for development-ready land for job creation
- Affordable housing/housing equity
- Downtowns, main streets, station communities development implementation
- Solid Waste Road Map

Parking lot:

* Planning areas adjacent to UGB
  (e.g., hamlet in undesignated areas)
* Invasive species management

Note: Items listed in *italic* are tentative agenda items.

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METRO POLICY ADVISORY COMMITTEE
October 26, 2011
Metro Regional Center, Council Chambers

MEMBERS PRESENT	AFFILIATION
Matt Berkow	Multnomah County Citizen
Steve Clark	Trimet Board of Directors
Kathryn Harrington	Metro Council
Jack Hoffman	City of Lake Oswego, representing Clackamas Co. Largest City
Carl Hosticka	Metro Council
Charlotte Lehan, Chair	Clackamas County Commission
Annette Mattson	Governing Body of School Districts
Marilyn McWilliams	Washington County Special Districts
Doug Neeley	City of Oregon City, representing Clackamas Co. 2nd Largest City
Loretta Smith, 2nd Vice Chair	Multnomah County Commission
William Wild	Clackamas County Special Districts

MEMBERS EXCUSED	AFFILIATION
Shane Bemis	City of Gresham, representing Multnomah Co. 2nd Largest City
Jody Carson	City of West Linn, representing Clackamas Co. Other Cities
Pat Campbell	City of Vancouver
Nathalie Darcy	Washington County Citizen
Michael Demagalski	City of North Plains, representing Washington Co. outside UGB
Dennis Doyle	City of Beaverton, representing Washington Co. 2nd Largest City
Jim Rue	Oregon Dept. of Land Conservation & Development
Andy Duyck	Washington County Commission
Amanda Fritz	City of Portland Council
Keith Mays	City of Sherwood, representing Washington Co. Other Cities
Wilda Parks	Clackamas County Citizen
Steve Stuart	Clark County, Washington Commission
Norm Thomas	City of Troutdale, representing other cities in Multnomah Co.
Barbara Roberts	Metro Council
Jerry Willey, Vice Chair	City of Hillsboro, representing Washington County Largest City

ALTERNATES PRESENT	AFFILIATION
Lori DeRemer	City of Happy Valley, representing Clackamas Co. Other Cities
Stanley Dirks	City of Wood Village, representing other cities in Multnomah Co.
Ed Gronke	Clackamas County Citizen
Marc San Soucie	City of Beaverton, representing Washington Co. 2nd Largest City
Peter Truax	City of Forest Grove, representing Washington Co. Other Cities

STAFF:
Jessica Atwater, Nick Christensen, Councilor Collette, Rita Conrad, Andy Cotugno, Councilor Craddick, Christina Deffebach, Tom Kloster, and Kelsey Newell.

1. CALL TO ORDER AND DECLARATION OF A QUORUM

Chair Lehan declared a quorum and called the meeting to order at 5:07p.m.

2. SELF INTRODUCTIONS AND COMMUNICATIONS

All attendees introduced themselves.

3. CITIZEN COMMUNICATIONS ON NON-AGENDA ITEMS

There were none.

4. CONSIDERATION OF THE MPAC MINUTES FOR AUGUST 10, 2011

MOTION: Mayor Peter Truax moved, Mr. William Wild seconded to adopt the September 28, 2011 MPAC minutes.

ACTION TAKEN: With all in favor, the motion passed.

5. COUNCIL UPDATE

Councilor Hosticka updated MPAC on the following points.

The Metro Council voted to expand the Urban Growth Boundary by 1,985 acres on October 20, 2011. There was one addition to the Chief Operating Officer's recommendation, an area west of Tigard known as Roy Rogers West. The piece was added to facilitate connectivity to previous UGB additions, areas 63 and 64. Councilor Hosticka clarified that Metro feels that the UGB edge is complete for at least three to four years, and will now focus on promoting policies and investments that make the most of land within the UGB. Metro's UGB decision now goes to the Oregon Land Conservation and Development Commission (LCDC) for approval. Some members inquired into Metro's focus within the UGB, specifically in regards to how cities outside the current UGB can request entry within the UGB in 2016. Councilor Hosticka responded that Metro is required to assess a capacity ordinance for the region in 2014, determine how to meet at least half of that housing need by 2015, and how to meet all the need by 2016. There is no requirement that any need must be met outside the boundary. Title 11 concept plans and efficiency measures should be received by the end of 2015. If a jurisdiction is outside the UGB and in Urban Reserves, that entity will have to compile a Title 11 packet.

MPAC and JPACT will meet in a joint work session to receive an update on the 'Climate Smart Communities: Scenarios' project on Friday, December 2nd from 8am to 11am at the Oregon Convention Center. After the December 2nd meeting, jurisdictions need to discuss what actions they would like to take, what actions they are able to take, and where the region would like to go with this project.

Councilor Hosticka invited Councilor Collette to update the group on the status of Metro and the Consortium's HUD grant. Councilor Collette explained that if the grant is awarded, an executive committee will be composed of governmental, nonprofit, and various other groups in the community. MPAC will have the opportunity to appoint two members to sit on this committee.

Metro will be informed within approximately 60 days as to whether or not the Consortium will receive the HUD grant. Even if the HUD grant is not awarded to Metro and the Consortium, Metro and some of the groups in the Consortium may pursue some of the projects outlined in the grant proposal.

On October 17th Metro hosted a workshop on local transportation systems plans. Metro staff provided guidance and materials on how the region can meet 2035 Regional Transportation Goals through local transportation system plans. Please see the brochure at www.oregonmetro.gov/tsp.

On November 4th there will be a presentation by Dr. Lawrence Frank that relates the impact of the built environment on health. Portland is a leader in this issue area. Dr. Frank will bring updates on the national and international levels.

Metro's 'Tours of Untimely Departure' event takes place on Halloween at Lone Fir Cemetery. The tour begins at 6pm. Tickets can be purchased online at friendsoflonefircemetery.org.

6. INFORMATION/DISCUSSION ITEMS

6.1 GREATER PORTLAND PULSE—DEMONSTRATION AND UPDATE

Councilor Harrington introduced the Greater Portland Pulse (GPP) project, emphasizing that MPAC must consider how to make this important tool part of social policy as this project is a tool to serve public servants. The development phase of this project is wrapping up, and is currently working on a business plan that will determine how to make GPP indicators a permanent part of the region's planning. Councilor Harrington highlighted that the GPP report available at this meeting contains important data on education, vital for creating the workforce our region needs for the future. She extended Metro's gratitude to GPP's board members, including select members of MPAC. She also announced that the City Club of Portland's will host a GPP luncheon, taking place on Friday, October 29th. She introduced the GPP team members presenting to MPAC, Dr. Sheila Martin of Portland State University's Institute of Portland Metropolitan Studies, Ms. Rita Conrad, and Mr. Andy Cotugno, both of Metro.

Mr. Cotugno provided an historical overview of the GPP project. He reminded the group that Metro has an obligation to track its progress on various projects. He recalled that MPAC played a role in determining which indicators Metro and the region would track, specifically the economic and education indicators that are typically beyond Metro's jurisdiction. This fact led to the partnership between PSU and Metro. As fundraising could not occur for the project until there was a finished product to track indicators Metro and PSU contributed the initial funding for GPP and its business plan.

Ms. Conrad provided an overview of the GPP project. The purpose of this project is to measure results and inspire action around them. There are nine results teams—economic opportunity, education, healthy people, safe people, arts and culture, civic engagement, healthy natural environment, housing and communities, and access and mobility—with the addition of an equity panel. There are four kinds of "capita" needed for prosperity: human capital, social capital, physical capital, and natural capital. The indicators speak to Metro's progress toward the six Desired Outcomes. In addition to consideration of business plans, there are equity proceedings.

Dr. Martin gave a demonstration of the GPP website. She pointed out sections a where people can endorse the project, the 'latest news' section, and a section where people can sign up for workshops. She encouraged members to both endorse the project and for members' staff to sign up to attend workshops. She continued the demonstration by showing the group how to use the indicator maps. She highlighted that for some census tract data, the margin of error can be quite high, and is visible when viewing data on the maps. The census data puts an equity lens on indicator areas. Data is generally presented for the four county region: Multnomah, Washington, Clackamas, and Clark counties. Skamania, Columbia, and Yamhill counties are included in some indicator areas.

Dr. Martin gave the group examples of how members may want to use the data. The data allows people to begin asking questions about what investments or which policies can be made in which neighborhoods or in which programs (e.g. affordable housing, transportation, loans, etc).

Dr. Martin then discussed the relationship between education and economic prosperity. She highlighted that the higher a person's education, the lower that person's unemployment rate; education offers insulation from unemployment. Examining this relationship through the lens of race and ethnicity, the insulation offered by higher education begins to disappear for non-white and non-Asian populations; this indicates an equity issue. The region needs to look at this relationship and ask 'what are we doing today to make this better tomorrow?'

Ms. Conrad explained how the GPP report uses the Pulse data online by highlighting one theme in this first reporting cycle. This report centers on the importance of human capital in sustaining economic prosperity as well as social, physical and natural capital. The region's human capital is fast becoming more diverse, especially in K-12 schools. Children of color and low income will increasingly be the region's work force and leaders of tomorrow. However, it is children of color and low income, and their families that suffer inequities areas across indicator categories. A critical upstream solution is making sure *all* children get a good education.

Members expressed support for this research and addressing the education inequity issue.
Staff posed a set of questions for MPAC to consider: What are the criterion of whom and where the host of this project should be? And is MPAC prepared to be part of the 'ask' for the funding plan?

Group discussion highlights included:

Members expressed some concern as to the currency of the census tract data, and a mechanism for updating data. Dr. Martin explained that there is a data update schedule, but there needs to be a stable home and funding for this to occur.

Some members inquired if neighborhoods would be included in the indicator maps. Staff said that they are in the process of adding neighborhoods to the maps, and they would appreciate members' input in that process.

Some members asked if there is data available on foreclosures. The presenters answered that previously there was, as the data was available for free, but the data now has a cost and so has not been included.

Some members inquired into the education data, expressing concerns that the data is too linear. The presenters acknowledged that they shared these concerns, but that the data conforms to a

national standard. Ms. Annette Mattson clarified that the federal government has now standardized how high school graduation rates are measured. The goal is for 88% of entering freshman to graduate within four years. While a fifth year senior goal has also been added to the measurement, the GED is still not part of this measurement. The group discussed high school graduation rates within the region, and looked at these rates through the lenses of location and race and ethnicity. The national goal for education levels is 40-40-20 (40% of people obtain a Bachelor's degree, 40% obtain a post-secondary degree, and 20% have at least a high-school diploma). The region has not yet achieved this goal, which indicates a need to have stronger partnerships between all levels of education and nonprofits offering education services.

Members asked if there is a way to compare a new housing development to an older neighborhood in terms of education, transportation costs, etc…. Staff responded that as education may be collected on a school district basis and land costs are assessed on a parcel basis, you can only infer a relationship, there is no direct relationship.

Members inquired if there is a way to observe data on the growth within the UGB through this site, with some members interested in using this data for a UGB decision. Staff responded that GPP already has 78 categories of data, with 58 of those categories having collected data. Crafting indicators is vital for public involvement and utility. While staff is not discouraging collecting more data, they are mindful of how they present it.

Some members would like to explore how to use the data for MPAC.

6.2 OREGON TRANSPORTATION PLANNING (TPR) AND OREGON HIGHWAY PLAN (OHP) AMENDMENTS

Mr. Tom Kloster and Ms. Lainie Smith of the Oregon Department of Transportation (ODOT) presented to MPAC on upcoming amendments to the Oregon Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP). The two documents are linked through TPR section 0060. They emphasized that the changes to this section will be sweeping, particularly in the area of highways. The TPR is currently in parallel review by the Oregon Transportation Commission (OTC) and LCDC.

There will be an action item for MPAC to endorse a Metro letter on November 9, 2011, but members are encouraged to write letters from their own jurisdictions or themselves to highlight issues that are most important to them. These letters should give examples of how the current rules have impeded a jurisdiction's land use, transportation, or community plans and how the new rules will help this plan succeed. Councilor Harrington emphasized MPAC members should be willing to go to the hearings personally to testify.

Mr. Kloster gave a presentation on the content and timeline of the TPR and OHP amendments. There were some concerns brought to LDCD at a hearing last year that have triggered proposed amendments. Economic development opportunities come into play when jurisdictions receive development proposals that require plan amendments, and many jurisdictions have made the case for greater flexibility in waiving transportation improvements that might otherwise be required for these amendments. However, other local jurisdictions have argued against favoring certain kinds of development with what amounts to a transportation infrastructure subsidy, so there will most likely not be consensus in our region on proposed TPR provisions to allow 'partial mitigation allowed when adding industrial or non-retail jobs.'

Ms. Smith discussed Policy 1F, which addresses highway mobility, expressed as a volume-capacity ratio. As parcels move from less intense land use to more intense land use, as in up-zoning, there are standards for highway mobility. Current proposals for changes to Policy 1F are sweeping in tone and substance. The language is moving from the word 'standard' to the word 'target.' ODOT is moving toward more flexibility in allowing for alternative transportation standards. These standards no longer have to be volume-capacity based. There are often competing transportation needs within a community, and the results of these amendments could mean more congestion on the system, with a trade-off of better pedestrian crossings or more bike facilities. It must be determined if those trade-offs are acceptable. ODOT now allows for more flexibility in the creation of traffic. The changes to the TPR specifically recognize that Metro already has alternative mobility standards, as adopted in 1999. Those standards are now 'up against the wall.' Through developing alternative standards in local areas ODOT is developing a toolbox of measures for alternative mobility to set standards for specific plans.

There was a joint meeting of MTAC and TPAC on these amendments. There is a letter on TPR that Mr. Kloster will take to TPAC on October 28, 2011, which will then go to MPAC on November 9, 2011. Councilor Harrington emphasized that now is the time for members to express their thoughts on the direction of TPR.

The OTC will hear amendments to the OHP on November 16th in Silverton, and LCDC will hear amendments to the TPR on December 8th and 9th in The Dalles. The presenters encouraged members to write letters to the OTC and LCDC in regards to these hearings on specific topics that they feel strongly about in the OTC and TPR amendments. Many items discussed at TPR meetings have been left without consensus, and this letter is another opportunity for members to express their views on these issues and others.

Group discussion highlights included:

Some members who had participated in the TPR amendment process expressed that ODOT is nervous to move TPR language from 'standards' to 'targets.' LCDC has been made aware of the lack of consensus. Some members expressed support for moving from 'standards' to 'targets,' though they feel that it is not far enough; they would like to see an even greater increase in flexibility in regards to transportation planning and up-zoning areas. They expressed concern that the changes will still prevent up-zoning in certain areas due to alternative transportation requirements. Some members asked if there is a way to make the extremely expensive traffic analyses standards more flexible, and based on principles rather than standards. Some members would like to intensify center developments with the TPR changes.

Some members also discussed the concern of effective local government in relation to new transportation developments. The impacts of these changes are extremely different from jurisdiction to jurisdiction; members encouraged each jurisdiction's transportation planners to review the amendments closely. It will most likely be several years before another opportunity to make amendments to the TPR occurs. It is important to focus on the large changes now. Now is a good time to ask questions as Salem looks to this region as a sort of laboratory as to how to address traffic issues.

Some members inquired if concurrence between the OHP and the TPR are required. Staff responded that it is not, each is a free-standing document. Despite the lack of need for concurrence, some members would like to encourage concurrence to facilitate greater cooperation to achieve results. Members expressed a need to make sure that standards are flexibly enforced and accurately measured.

Some members would like TPR to move ahead, and to include Business Oregon to create confidence in these changes. The group expressed that these concerns would be appropriate to include in the letter to the Commissions.

Mr. Kloster agreed with the group that he will include both a staff recommendation and a draft letter to the Commissions in the next MPAC packet. Members also would like some materials that focus on issues that are not currently in the letter that currently do not have consensus, but may be of importance to certain jurisdictions.

7. MPAC MEMBER COMMUNICATIONS

There were none.

8. ADJOURN

Chair Lehan adjourned the meeting at 6:59pm.

Respectfully submitted,

Jessica Atwater
Recording Secretary

ATTACHMENTS TO THE PUBLIC RECORD FOR 010/26/11**:**
The following have been included as part of the official public record:

ITEM	DOCUMENT TYPE	DOC DATE	DOCUMENT DESCRIPTION	DOCUMENT NO.
4.0	Flyer	10/26/11	Dr. Lawrence Frank Presentation	102611m-01
4.0	Booklet	10/26/11	Fall 2011 Metro GreenScene	102611m-02
4.0	Booklet	10/26/11	Regional Transportation Plan, Local Transportation System Plans	102611m-03
6.1	Presentation	10/26/11	Greater Portland Pulse, Moving Beyond Startup	102611m-04
6.1	Report	10/26/11	Greater Portland Pulse 'The Path to Economic Prosperity'	102611m-05
6.2	Presentation	10/26/11	Transportation Planning Rule and Oregon Highway Plan Amendments	102611m-06

Jie Hu

Director and Chief Designer, Beijing Tsinghua Urban Planning & Design Institute;
Associate Professor, School of Architecture, Tsinghua University, Beijing, China

Jie Hu is the Director and Senior Landscape Architect in the Department of Landscape Architecture at the Beijing Tsinghua Urban Planning and Design Institute. He is also an Associate Professor at the School of Architecture in Tsinghua University, a registered landscape architect in the U.S., a member of the American Society of Landscape Architects (ASLA), and former Director of the Chinese Society of Landscape Architecture.

Best known for his internationally award-winning projects, Beijing's 2008 Olympic Forest Park, Tieling Fanhe New City landscape planning, and Tangshan Nanhu Eco-city Central Park, among many others, Prof. Hu believes understanding ecology is important in today's contemporary landscape design and attempts to infuse his projects with the spirit of Chinese culture and tradition, the local culture, and also sound contemporary ecological science. As China faces a period of rapid development, Hu believes it is the responsibility of landscape architects to keep projects environmentally sound. He incorporates two main areas into his design: 1) local culture, and 2) modern ecological research and technology.

Prof. Hu graduated from the Chongqing Institute of Architecture and Engineering (China) in 1983 with a Bachelor degree in Architecture and from Beijing Forestry University in 1986 with a Master degree in Landscape Architecture. In 1995, he graduated from the University of Illinois at Urbana-Champaign with a second Master degree in Landscape Architecture, focusing on Land Resource Planning. From 1995 to 2003, Hu was a senior landscape architect at Sasaki Associates, Inc. in Watertown, Mass., where he worked on large urban planning projects.

Prof. Hu's awards include a First Place in the International Design Competition for the Beijing Olympic Green Master Plan, 2002, and the Green Good Design Award in Green Urban Planning for the Beijing Olympic Forest Park in June 2011, as well as a

First Place Torsanlorenzo International Prize in Landscape Design in Transformation of the Territory for Tangshan Nanhu Eco-city in May 2011.

Based on his professional contribution to the landscape architecture industry, Prof. Hu was honored with the 2007 Beijing Foreign Experts "Great Wall Friendship Award", the Beijing 2008 Olympic Games Torchbearer, the Beijing Olympic Planning Project Exploring, Design and Mapping Industry Advanced Individual, the Hi-tech Olympics Sophisticated Individual, and the 2008 Chinese Science Man of the Year.

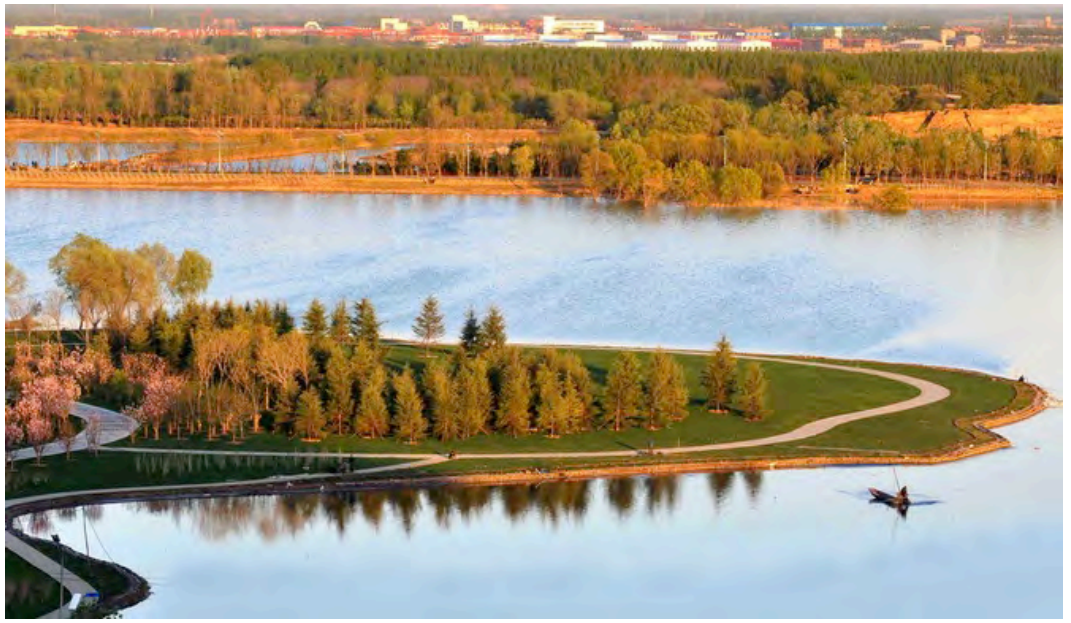
Projects and Awards:

Beijing Olympic Forest Park Planning and Design

- Green Good Design Award in Green Urban Planning, Jun. 2011
- Honor Award, 2009 ASLA Professional Award, General Design Category
- President Award, the 6th International Federation of Landscape Architects of Asia – Pacific Regional Congress Award (IFLA-APR) in Design Category – Aug. 2009
- President Award, the 5th IFLA-APR Congress Award in Landscape Planning Category – Feb. 2008
- 1st Prize, 2007 Torsanlorenzo International Prize in Urban Green Space Section
- 1st Prize, National Excellent Urban and Rural Planning and Design Project Award, Mar.2009
- Special Award, 'Landscape Water Quality Protection Comprehensive Technology and Demonstration Projects' in Beijing Olympic Project Technology Innovation Award – Mar. 2009
- Special Award, 'Recycling and Reuse of Solid Waste Projects' in Beijing Olympic Project Technology Innovation award'; – March 2009

Tangshan Nanhu Eco-city Landscape Planning

- 1st Prize, the 8th Torsanlorenzo International Prize in Landscape Design in Transformation of the Territory – May 2011
- Excellent Award, the 8th IFLA-APR Congress Award in Landscape Planning Category – Jan. 2011
- 3rd Prize, Hebei Province 2008 Annual Excellent Urban and Rural Planning Achievements – Jul. 2009



Tieling Fanhe New City Lotus Lake National Wetland Park Landscape Design

- President Award, the 8th IFLA-APR Congress Award in Landscape Design Category – Jan, 2011
- 2nd Prize, Torsanlorenzo International Prize, in Landscape Design in Transformation of the Territory – Apr. 2009
- 3rd prize, National Excellent Urban and Rural Planning and Design Project– Apr. 2009

MPAC Worksheet

Agenda Item Title: Comments on draft amendments to the Oregon Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP)

Presenter(s): Tom Kloster, Metro

Contact for this worksheet/presentation: Tom Kloster, x1832

Date of MPAC Meeting: November 9, 2011

Purpose/Objective

Approve formal comments on proposed amendments to the Oregon Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP).

Action Requested/Outcome

We ask that MPAC members:

- Review TPAC draft of comment letter on the proposed amendments (attached)
- Consider additional input from MTAC (to be shared at meeting).
- Approve comments for submittal to the Oregon Transportation Commission (OTC) and Land Conservation & Development Commission (LCDC).

How does this issue affect local governments or citizens in the region?

The proposed amendments to the TPR and OHP would streamline the process for making local plan amendments and zone changes that advance economic development and the 2040 Growth Concept. The amendments to the OHP will also allow for more flexible, multi-modal mobility policies to be adopted for our major travel corridors.

What has changed since MPAC last considered this issue/item?

The attached TPAC draft of the comment letter reflects their joint workshop with members of MTAC to review the proposed amendments and identify areas of consensus for inclusion in the letter. MTAC will review the letter at their November 2 meeting and forward any additional recommendations to MPAC for consideration.

What packet material do you plan to include?

Cover transmittal memo from TPAC

Draft comments forwarded by TPAC

600 NE Grand Ave.
Portland, OR 97232-2736
www.oregonmetro.gov

Metro | *Memo*

Date: November 1, 2011

To: Council, JPACT and MPAC Members & Interested Parties

From: Tom Kloster, AICP, Transportation Planning Manager

Subject: Draft comments on proposed amendments to the Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP).

The attached comment letter was drafted based on an October 19 joint TPAC and MTAC workshop and subsequent TPAC discussion on October 28 of the proposed amendments to the Transportation Planning Rule (TPR) and Oregon Highway Plan (OHP). TPAC moved to endorse the draft for Council, JPACT and MPAC consideration. MTAC is scheduled to complete their review of the letter at their November 2 meeting.

The comments cover aspects of the TPR and OHP amendments where broad consensus on support existed for the draft language, or there was a consensus for the need to revise the draft text. Highlights include:

- Strongly endorse exempting local zone changes that are consistent with adopted plans from the 0060 TPR provisions
- Strongly endorse provisions allowing the creation of "multi-modal mixed use areas" or MMAs that exempt such areas from the 0060 TPR provisions
- Support special provisions for coordination with ODOT when interchanges are located inside an MMA, provided the ODOT determination is made locally
- Support OHP concept of alternative mobility policy based on corridors and multi-modal measures of travel
- Support shift from "standards" to "targets" when evaluating mobility as a means for creating more flexibility in heavily congested areas in our region
- Would like to see a commitment for the ODOT work program to carry amended OHP policies into other implementing documents (such as the highway design manual), and reconciling the new MMA designation in the TPR with ODOT's Special Transportation Area (STA) designation.

If approved and signed by the Metro Council, JPACT and MPAC, these comments will be submitted to the OTC and LCDC. State legislation requires the OTC and LCDC take respective actions on the proposed legislation by January 1, 2012.

November 15, 2011

Land Conservation and Development Commission (LCDC)
635 Capitol Street NE
Salem OR 97301-2532

Oregon Transportation Commission (OTC)
1158 Chemeketa Street NE
Salem, OR 97301

Dear Commission Members:

Thank you for the opportunity to comment on proposed amendments to the Transportation Planning Rule (TPR) and related revisions to the Oregon Highway Plan (OHP). We especially appreciate the opportunity to participate in the early stages of the rulemaking process, including the January panel discussion conducted by the joint OTC/LCDC subcommittee and the subsequent rulemaking advisory committee (RAC) over the past several months.

We have reviewed the draft amendments to the TPR and OHP, and strongly support the new direction proposed for both policy documents. While the TPR amendments represent a fairly targeted set of changes, we believe the impact will be substantial in allowing the Metro region to better advance our Region 2040 growth strategy.

The proposed revisions to the OHP are more sweeping, and we strongly support the new direction of defining “success” more holistically, across travel corridors and including all modes of travel. This approach will greatly enhance our ability to implement the recently adopted 2035 Regional Transportation Plan (RTP) through ongoing corridor planning and through city and county transportation system plans.

We applaud both commissions for meeting the legislated timeline for developing the draft TPR and OHP changes. Though we are providing more detailed comments, below, we are generally very supportive of the proposed changes, and look forward to seeing the TPR and OHP amendments enacted in December.

Transportation Planning Rule Comments

1. We strongly support amendments to the TPR that would exempt zone changes consistent with comprehensive plans from 0060 provisions. We understand that in the RAC discussions there were concerns about plans being too out of date to be relied upon for this provision, but this does not appear to be an issue in the Metro region: cities have followed the state periodic review process to update their comprehensive plans and, since 1995, the urban growth management functional plan triggered updates to all local plans to implement the 2040 Growth concept. Updates to the RTP in 2000, 2004 and 2010 have also triggered a similar series of updates to local transportation plans.

   This amendment to the TPR would remove a significant obstacle that several of our cities face in advancing the 2040 plan through staged zone changes, often made when infrastructure improvements are completed. The most prominent example is the Interstate Avenue light rail corridor, where zone changes were timed to follow completion of the MAX yellow line. These changes were nearly stopped by the existing TPR language, but would be allowed outright under the proposed changes.

2. We also support draft provisions allowing for "multi-modal mixed-use areas" (MMAs) to be designated by local jurisdictions and exempted from the 0060 provisions. This new designation goes a long way in helping cities and counties in the Metro region advance local plans for the centers, main streets and mixed-use corridors envisions in the Region 2040 growth strategy.

   Because our local jurisdictions have already done most of the planning required to define these "multi-modal mixed-use areas", defining their boundaries for the purpose of the TPR will be a logical and straightforward step. By definition, most of our 2040 centers are located along major thoroughfares, and often near highway interchanges, so the difficult traffic conditions anticipated by the new TPR language are a common obstacle in implementing these plans.

   As currently written, the draft TPR language lists land use types that closely match some of the Region 2040 design types (regional centers and town centers, for example), and would provide a path to safe harbor from the 0060 provisions for local governments based on these designations. Other design types within the 2040 construct also generally reflect the MMA criteria (main streets, station communities and mixed-use corridors), but are not as clearly called out in the draft language.

   We support this tiered approach for our region, as the 2040 centers are a basic organizing element of the 2040 growth strategy, and have been the main focus of local planning effort. In contrast, other mixed-use areas have often had less focus in local planning efforts, and should meet the higher bar of satisfying the MMA criteria in the draft TPR amendments.

3. We support the higher standard for establishing MMAs in interchange areas as a way to protect regional and statewide travel interests, but this decision can best be made by local ODOT officials.

   In the Metro region, our interchanges are a complex mixture of non-standard designs where it is often difficult to apply conventional design and safety standards. However, the Region 1 manager is well-versed in the issues and constraints presented by our interchanges, and should specifically be identified in the amended TPR as the person who provides written concurrence when included interchanges in an MMA.

Oregon Highway Plan Comments

1. We strongly support the proposed alternative mobility policy contained in the OHP draft that allows for additional flexibility in defining mobility goals, and using multi-modal corridors to plan for and evaluate regional and statewide mobility. This change embraces the corridor-based mobility policy adopted last year in the 2035 RTP, and we look forward to applying the new provisions in the ongoing corridor work we are engaged.

   Currently, we are conducting corridor plan efforts in the Southwest Corridor (extending from the Portland Central City to Sherwood) and East Metro Corridor (Extending from I-84 to US 26 in East Multnomah County) where we will have an opportunity to work with ODOT in developing new mobility targets under the proposed OHP changes.

2. We also strongly support the shift from mobility “standards” to “targets”. When the 2035 RTP was adopted last year, the new plan incorporated a series of “desired outcomes” that are very much like the “targets” envisions in the draft OHP in that they are intended to guide incremental decisions over time, with less focus on a finish line.

3. We support the new technical latitude for ODOT in evaluating impacts of plan amendments proportionate to existing conditions. This change is especially appropriate for our region, where traffic volume is very high on major streets and highways, and the impact of a land use change is almost always dwarfed by the background traffic in a given area. The change will allow facility providers the needed flexibility to support land use changes that advance the Region 2040 strategy and reach practical design solutions for meeting system needs.

4. The proposed OHP revisions represent a major shift in state policy, but the new plan will rely on a series of implementing documents to carry this new direction to projects on the ground. Chief among these is the Oregon Highway Design Manual. In order to ensure full implementation of the revised OHP, the OTC should include a work program for ODOT to complete these related updates to the Oregon Highway Design Manual and other implementing documents.

5. The Rules Advisory Committee discussed the possibility of reconciling and consolidating the OHP provisions for reconciling Special Transportation Areas (STAs) with the new "multi-modal mixed use areas" (MMAs) provided in the TPR amendments. This needed work should also be detailed by the OTC as a follow-up work program for ODOT in order to ensure full implementation of the revised OHP.

Again, we thank you for your leadership on these efforts, and look forward to working with you and your staff to begin implementing these important changes to the OHP and TPR in our region.

Sincerely,

signature	*signature*	*signature*
Tom Hughes, President *Metro Council*	Carlotta Collette, Chair *Joint Policy Advisory Committee on Transportation*	Charlotte Lehan, Chair *Metro Policy Advisory Committee*

MPAC Worksheet

Agenda Item Title: Climate Smart Communities Scenarios – Report on Preliminary Findings and Next Steps

Presenter(s): Kim Ellis

Contact for this worksheet/presentation: Kim Ellis

Date of MPAC Meeting: November 9, 2011

Purpose/Objective

Staff will present an update of the Climate Smart Communities Scenarios project activities and share the preliminary results of the Phase 1 research and analysis conducted since June to help MPAC members prepare for the December 2 work session with JPACT and the Metro Council.

Action Requested/Outcome

- What additional information does MPAC need to prepare for the December 2 work session?

How does this issue affect local governments or citizens in the region?

The goal of the Climate Smart Communities scenarios effort is to collaborate across different levels of government and public and private sectors to find the right combination of actions that will help the region build healthy, prosperous, equitable and environmentally-sound communities that meet state climate goals and advance local aspirations.

While reducing greenhouse gas (GHG) emissions is important to the health of the region and the planet, the Climate Smart Communities scenarios work will demonstrate that the region can progress toward the GHG reduction goals set by the state within the context of achieving outcomes of equal importance to communities, businesses and residents: a healthy economy; clean air and water; and access to good jobs, affordable housing, transportation options, nature, trails and recreational opportunities.

What has changed since MPAC last considered this issue/item?

Throughout the summary and early fall 2011, a work group of members from the Transportation Policy Advisory Committee (TPAC) and the Metro Technical Advisory Committee (MTAC) assisted Metro staff with developing the Phase 1 scenarios assumptions, consistent with the guiding principles and evaluation framework endorsed by the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC) in June.

The technical work group met six times to define the scenarios to be tested while Metro and ODOT staff continued to develop tools to support the analysis. The model development work concluded in early September, and the initial metropolitan Greenhouse Gas State Transportation Emissions Planning (GreenSTEP) model runs were completed in October. The technical work group met four additional times to review the preliminary results and help Metro staff identify analysis findings.

In addition to the above analysis, staff completed the Strategy Toolbox report, which summarizes local, national and international research related to land use and transportation strategies that can help reduce transportation-related GHG emissions and meet other policy objectives. It provides useful information for discussing the trade-offs and choices presented by the most effective GHG

reduction strategies, including their co-benefits, synergy with each other and implementation considerations.

On November 2, MTAC discussed the preliminary results and findings, and suggested refinements to the presentation materials. MTAC will continue discussion of the results on November 16.

What packet material do you plan to include?

- **Memo and attachments**
  - **Attachment 1:** Metropolitan GreenSTEP Model 2010 Base Year and Alternative Scenario Inputs (October 24, 2011)
  - **Attachment 2:** Strategy Toolbox Factsheets (October 2011)
  - **Attachment 3:** TPAC/MTAC Climate Smart Communities Scenarios Work Group Members

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Metro | *Memo*

Date:	November 2, 2011
To:	MPAC and JPACT and interested parties
From:	Kim Ellis, Principal Transportation Planner
Re:	Climate Smart Communities Scenarios – Report on Preliminary Findings and Next Steps

PURPOSE

Staff will present an update of the Climate Smart Communities Scenarios Project and share the preliminary results of the research and analysis conducted since June.

BACKGROUND

Since 2006, Oregon has initiated a number of actions to respond to mounting scientific evidence that shows the earth's climate is changing. As one of five states participating in the Western Climate Initiative, Oregon has signaled a long-term commitment to significantly reduce greenhouse gas (GHG) emissions.

In 2007 the Oregon Legislature established statewide GHG emissions reduction goals. The goals apply to all emission sectors - energy production, buildings, solid waste and transportation - and direct Oregon to:

- Stop increases in GHG emissions by 2010
- Reduce GHG emissions to 10 percent below 1990 levels by 2020
- Reduce GHG emissions to at least 75 percent below 1990 levels by 2050

In 2009, the Legislature passed House Bill 2001, directing Metro to "develop two or more alternative land use and transportation scenarios" by January 2012 that are designed to reduce GHG emissions from light-duty vehicles. The legislation also mandates (1) adoption of a preferred scenario after public review and consultation with local government; and (2) local government implementation through comprehensive plans and land use regulations that are consistent with the adopted regional scenario. The Climate Smart Communities Scenarios effort responds to these mandates.

In 2010, the Legislature approved Senate Bill 1059, providing further direction to GHG scenario planning in the Metro region and the other five metropolitan areas in Oregon. Aimed at reducing GHG emissions from transportation, the legislation mandates several state agencies to work with stakeholders to develop a statewide transportation GHG emissions reduction strategy, set metropolitan-level GHG emissions reduction targets for cars and light trucks, prepare guidelines for scenario planning, and develop a toolkit of actions to reduce GHG emissions. While State agencies are looking at the entire transportation sector, Metro—and the other MPOs identified in House Bill 2001 and Senate Bill 1059—are only required to address roadway GHG emissions from light-duty vehicles.

In 2010, the *Making the Greatest Place* initiative resulted in Metro Council adoption of:

- the six desired outcomes shown in **Figure 1**
- a Community Investment Strategy
- urban and rural reserves, and
- an updated Regional Transportation Plan.

The Council actions provide the policy foundation for better integrating land use decisions with transportation investments to create prosperous and sustainable communities and meet state climate goals.

Figure 1. The region's six desired outcomes – endorsed by city and county elected officials and approved by the Metro Council in Dec. 2010.

STATE RESPONSE – OREGON SUSTAINABLE TRANSPORTATION INITIATIVE[1]

The Oregon Department of Transportation (ODOT) and the Department of Land Conservation and Development (DLCD) are leading the state response through the Oregon Sustainable Transportation Initiative (OSTI). As part of this effort, the Land Conservation and Development Commission (LCDC) adopted per capita roadway GHG emissions reduction targets for light-duty vehicles for all six metropolitan areas within Oregon on May 19, 2011.

Shown in **Table 1**, the target for the Portland region calls for a 20 percent GHG emissions reduction below 2005 levels by 2035, in addition to the reductions anticipated from technology and fleet improvements. The LCDC target-setting process assumed fleet and technology would reduce 2005 emissions levels from 4.05 MT CO_2e[2] per capita to 1.51 per capita by 2035. To meet the target the region must reduce roadway emissions another 20 percent to 1.2 MT CO_2e per capita, as shown in **Figure 2**. While the regional target is based on 2005 emissions values, it has been calibrated to 1990 emissions levels and, if achieved, ensures the region is on track to meet the overall state 2050 GHG reduction goal.

Table 1. 2035 Roadway GHG emissions reduction target for Oregon metropolitan areas (per capita reduction below 2005 levels)

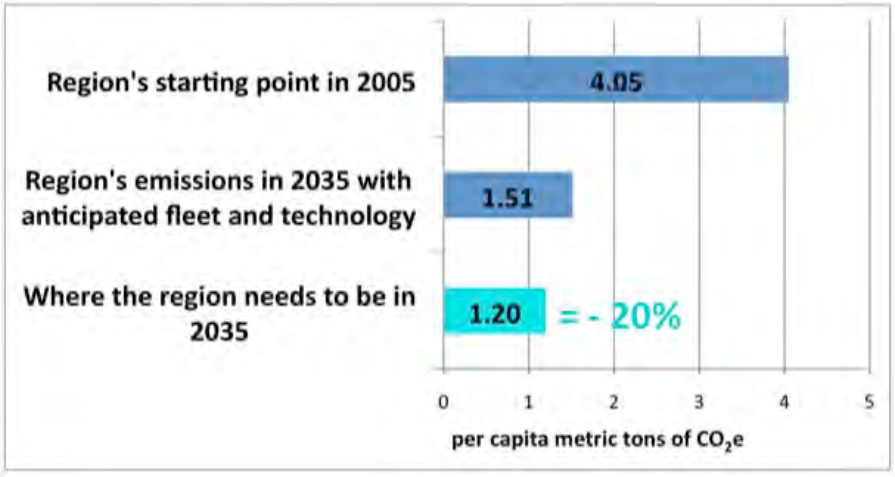
Metropolitan Area	Adopted Target
Portland Metro**	20%
Eugene-Springfield*	20%
Salem-Keizer	17%
Rogue Valley	19%
Bend	18%
Corvallis	21%

* Scenario planning required.
** Scenario planning and selection of preferred scenario required.

[1] For more information, go to http://www.oregon.gov/ODOT/TD/OSTI/

[2] MT CO_2e or Metric Tonne (ton) Carbon Dioxide Equivalent is the standard measurement of greenhouse gas emissions, which include carbon dioxide, methane and nitrous oxide.

Figure 2. Roadway GHG emissions for the Portland metropolitan region (per capita)



REGIONAL RESPONSE – CLIMATE SMART COMMUNITIES SCENARIOS

Regional and local leaders agree that Oregon and the Portland region must provide leadership in addressing climate change. The Climate Smart Communities Scenarios project (Scenarios Project) supports this goal by supplementing the Oregon State Transportation Initiative and other state actions with a collaborative regional effort that will advance local aspirations and implementation of the region's 2040 Growth Concept.

Project timeline

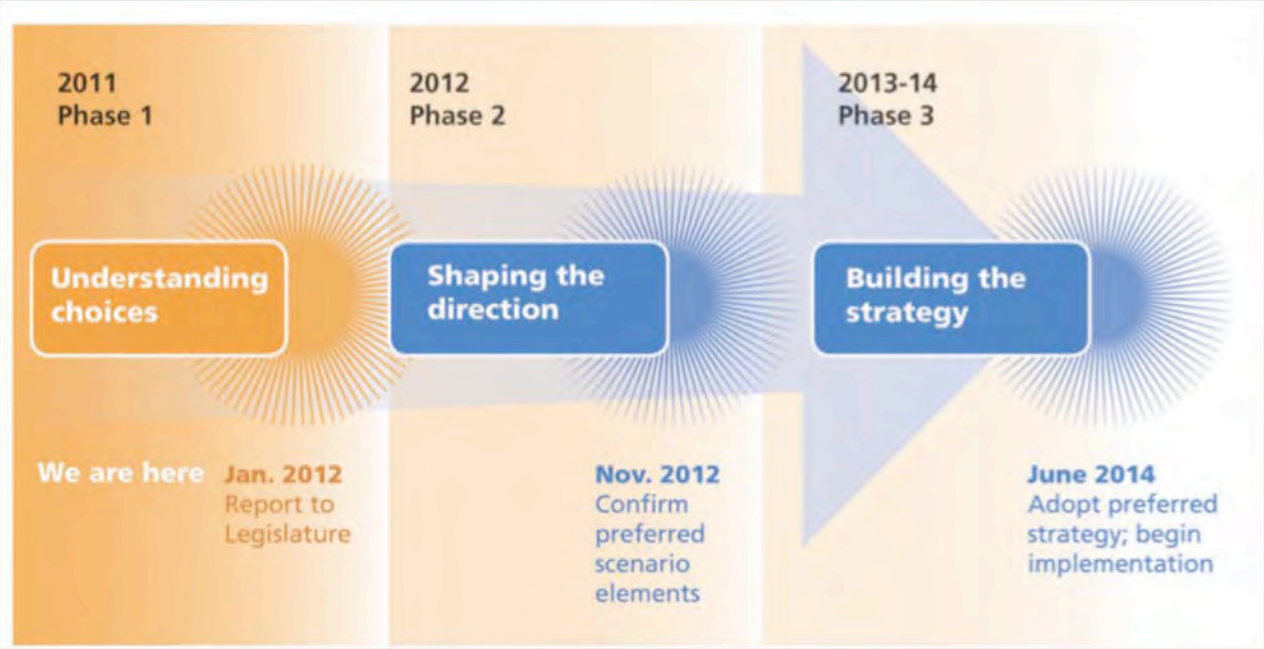
There are three phases to the Scenarios Project as shown in **Figure 3**.

Phase 1, *Understanding Choices* (2011) consists of testing GHG emission reduction strategies to learn the GHG emissions reduction potential of current plans and policies and what combinations of land use and transportation strategies are needed to meet the state GHG targets. The research and findings from this work will inform subsequent project phases. Community outreach engages policymakers, local government staff and targeted stakeholders, seeking guidance on the tradeoffs and issues that should be addressed in Phase 2.

Phase 2, *Shaping the Direction* (2012) includes developing and evaluating a small number of more tailored theme-based policy approaches that achieve the state GHG emission reduction target. The scenarios will be informed by the findings from Phase 1 and build on community aspirations, the 2040 Growth Concept and the draft Statewide Transportation Strategy that is anticipated by March 2012. The analysis and subsequent stakeholder review will result in a recommended draft "preferred" scenario that will be subject to further analysis and public review in Phase 3. Community outreach is anticipated to engage a broader set of policymakers, local government staff and other stakeholders, seeking input on the integration of land use and transportation strategies at the regional and local levels.

Phase 3, *Building the Strategy* (2013-14) includes adopting a preferred scenario after public review and consultation with local governments. This phase will define the policies, investments and actions needed to achieve the preferred scenario and result in an updated Regional Transportation Plan and amendments to other regional plans as needed. House Bill 2001 requires local government implementation through comprehensive plans and land use regulations that are consistent with the adopted regional scenario. Community outreach will engage the public more broadly as part of the final public review and adoption process.

Figure 3. Climate Smart Communities Scenarios Project Timeline



Project evaluation approach

Last June, the region discussed and agreed to six guiding principles to undertake this effort:

- **Focus on outcomes and co-benefits:** The strategies that are needed to reduce GHG emissions can help save money for individuals, local governments and the private sector, grow local businesses, create jobs and build healthy, livable communities. The multiple benefits should be central to the evaluation and communication of the results.
- **Build on existing efforts and aspirations:** Start with local plans and 2010 regional actions that include strategies to realize the region's six desired outcomes.
- **Show cause and effect:** Provide sufficient clarity to discern cause and effect relationships between strategies tested and realization of regional outcomes.
- **Be bold, yet plausible and well-grounded**: Explore a range of futures that may be difficult to achieve but are possible in terms of market feasibility, public acceptance and local aspirations.
- **Be fact-based and make information relevant, understandable and tangible:** Develop and organize information so decision-makers and stakeholders can understand the choices, consequences (intended and unintended) and tradeoffs. Use case studies, visualization and illustration tools to communicate results and make the choices real.
- **Meet state climate goals:** Demonstrate what is required to meet state the GHG emission reduction target for cars, small trucks and SUVs, recognizing reductions from other emissions sources must also be addressed in a comprehensive manner.

Overview of Phase 1 Research and Analysis – Understanding Choices

Phase 1 of the Climate Smart Communities Scenarios project is focused on understanding the region's choices by testing broad-level, regional scenarios to learn the GHG emissions reduction potential of current plans and policies and what combinations of land use and transportation strategies (grouped in six policy levers) are needed to meet the state GHG targets. While some strategies are new to the

region, many of the strategies tested are already being implemented to realize the 2040 Growth Concept and the aspirations of communities across the region.

In summer 2011, a work group of members from the Transportation Policy Advisory Committee (TPAC) and the Metro Technical Advisory Committee (MTAC) was charged with helping Metro staff develop the Phase 1 scenarios assumptions, consistent with the guiding principles and evaluation framework endorsed by the Metro Council, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Policy Advisory Committee (MPAC) in June.

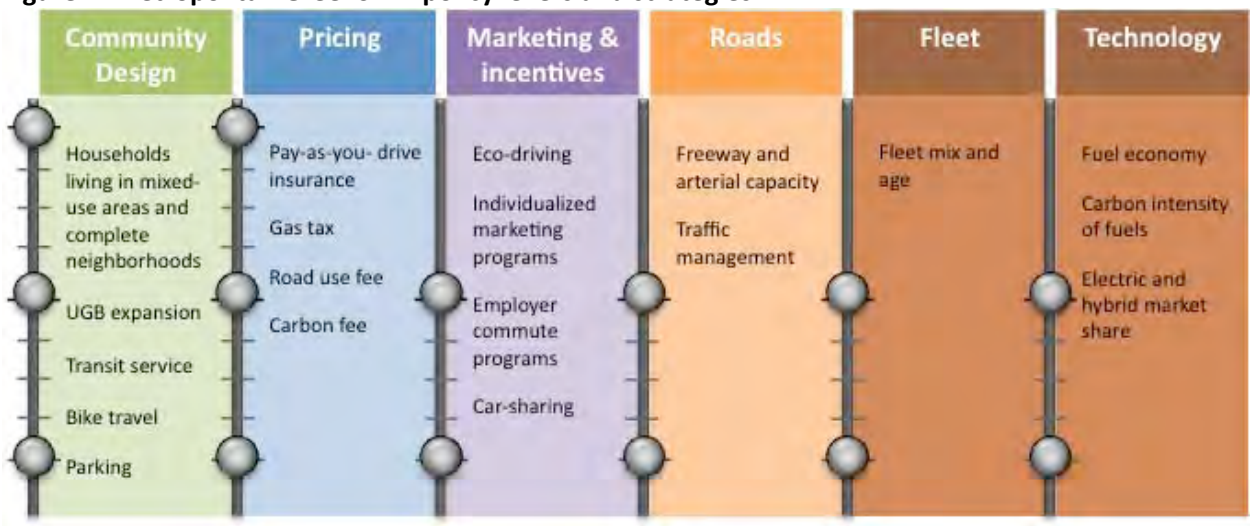
The technical work group met six times to define the scenarios to be tested while Metro and ODOT staff continued to develop tools to support the analysis. **Attachment 1** summarizes the input assumptions used in the Phase 1 scenarios analysis. The model development work concluded in early September, and the initial metropolitan Greenhouse Gas State Transportation Emissions Planning (GreenSTEP) model runs were completed in October.

Staff used a regionally tailored version of ODOT's GreenSTEP model to conduct the analysis. Using GreenSTEP—the same model used to set the region's GHG emissions reduction target—ensures compatibility with Oregon's Statewide Transportation Strategy and provides a common GHG emissions reporting tool across the State.

To date, 146 scenarios have been analyzed at a preliminary level. The foundation of this work is the development of a Base Case – the existing conditions for 2010 – and a Reference Case – a forecast of how the region will perform in 2035 based on projected population and demographic trends. The Reference Case assumes the realization of existing plans and policies. The remaining 144 scenarios test combinations of six policy levers that include land use and transportation strategies. Staff will continue to work with the work group, TPAC and MTAC to summarize the results and identify the combinations of policies that meet the region's GHG emissions reduction target.

Figure 4 summarizes the policy levers, the strategies tested within each policy lever and the number of policy lever levels analyzed in Phase 1.

Figure 4. Metropolitan GreenSTEP policy levers and strategies



In addition to the above analysis, staff recently completed the Strategy Toolbox report, which summarizes local, national and international research related to land use and transportation strategies that can help reduce transportation-related GHG emissions and meet other policy objectives. It provides useful information for discussing the trade-offs and choices presented by the most effective GHG reduction strategies, including their co-benefits, synergy with each other and implementation considerations. **Attachment 2** includes a series of factsheets staff prepared to summarize the Strategy Toolbox findings.

NEXT STEPS

Staff will brief Metro's technical advisory committees in October and November on the Strategy Toolbox and preliminary findings from Phase 1. The discussions will inform preparation of a "Briefing Book" that presents the project's purpose, evaluation approach, research findings and next steps for discussion by the Metro Council and Metro's policy advisory committees – JPACT and MPAC – in December.

On December 2, the Metro Council, JPACT and MPAC will discuss the trade-offs and choices presented by the most effective GHG reduction strategies and the potential challenges and opportunities that come with different approaches to meeting the state climate goals.

In January, staff will request Metro Council, JPACT and MPAC acceptance of the Phase 1 findings as expressed in the final "Briefing Book." This action will mark the end of Phase 1 and begin the transition to Phase 2. The findings will then be submitted to the Oregon Department of Transportation and the Department of Land Conservation and Development in January for inclusion in their joint progress report to the 2012 Legislature.

From January to March 2012, staff will work with Metro's advisory committees to finalize the Phase 2 work plan, building on the Toolbox and the Phase 1 findings and addressing the input provided throughout the fall of 2011.

/attachments

- **Attachment 1:** Metropolitan GreenSTEP Model 2010 Base Year and Alternative Scenario Inputs (October 24, 2011)
- **Attachment 2:** Strategy Toolbox Factsheets (October 2011)
- **Attachment 3:** TPAC/MTAC Climate Smart Communities Scenarios Work Group Members (October 24, 2011)

Metropolitan GreenSTEP Model
2010 Base Year and Alternative Scenarios Inputs

This table summarizes the inputs for the 2010 Base Year and 144 alternative scenarios that reflect different levels of implementation for each category of policies. The inputs were developed by Metro staff in consultation with a technical work group of MTAC and TPAC members. Documentation of the inputs and rationale behind each input can be found in the *Phase 1 Metropolitan GreenSTEP Scenarios Technical Assumptions* report (draft September 2011). *This information is for research purposes only and does not necessarily reflect current or future policy decisions of the Metro Council, MPAC or JPACT.*

Policy		Inputs			
		2010 Base Year *Reflects existing conditions*	**2035 Level 1 Reference Case** *Reflects current plans and policies*	**2035 Level 2** *Reflects more ambitious policy changes*	**2035 Level 3** *Reflects even more ambitious policy changes*
Community Design	Households living in mixed-use areas and complete neighborhoods[1] (percent)	GreenSTEP calculates			
	Urban growth boundary expansion (acres)	2010 UGB	7,680 acres	7,680 acres	No expansion
	Bicycle mode share (percent)	2%	2%	12.5%	30%
	Transit service level	2010 service level	2035 RTP Financially Constrained service level	2.5 times RTP service level	4 times RTP service level
	Workers / non-work trips paying for parking (percent)	13% / 8%	13% / 8%	30% / 30%	30% / 30%
	Average daily parking fee ($2005)	$5.00	$5.00	$5.00	$7.25
Pricing	Pay-as-you-drive insurance (percent of households participating and cost)	0%	0%	100% at $0.06/mile	*No change from L2*
	Gas tax (cost per gallon $2005)	$0.42	$0.48	$0.18	
	Road use fee (cost per mile $2005)	$0	$0	$0.03	
	Carbon emissions fee (cost per ton)	$0	$0	$0	$50

[1] This input was calculated internally by the GreenSTEP model.

Policy		Input			
		2010 Base Year *Reflects existing conditions*	**2035 Level 1 Reference Case** *Reflects current plans and policies*	**2035 Level 2** *Reflects more ambitious policy changes*	**2035 Level 3** *Reflects even more ambitious policy changes*
Marketing & Incentives	Households participating in ecodriving	0%	0%	40%	*No change from L2*
	Households participating in individualized marketing programs (percent)	9%	9%	65%	
	Workers participating in employer-based commuter programs (percent)	20%	20%	40%	
	Car-sharing in high density areas (target participation rate)	Participation rate of 1 member/100 people	Participation rate of 1 member/100 people	Double participation to 2 members/100 people	
	Car-sharing in medium density areas (target participation rate)	Participation rate of 1 member/200 people	Participation rate of 1 member/200 people	Double participation to 2 members/200 people	
Roads	Freeway and arterial expansion	2010 system	2035 RTP Financially Constrained System	No expansion	*No change from L2*
	Delay reduced by traffic management strategies (percent)	10%	10%	35%	
Fleet	Fleet mix (proportion of autos to light trucks and SUVs)	auto: 57% light truck/SUV: 43%	auto: 56% light truck/SUV: 44%	auto: 71% light truck/SUV: 29%	
	Fleet turnover rate (age)	10 years	10 years	8 years	
Technology	Fuel economy (miles per gallon)	25 mpg	50 mpg	58 mpg	
	Carbon intensity of fuels	90 g CO_2e/ megajoule	81 g CO_2e/ megajoule	72 g CO_2e/ megajoule	
	Light-duty vehicles that are plug-in hybrids or electric vehicles (percent)	auto: 0% light truck/SUV: 0%	auto: 4% light truck/SUV: 1%	auto: 8% light truck/SUV: 2%	

Mixed-use development in centers and corridors

Mixed-use development refers to a collection of complementary strategies including a varied commercial district, diverse land uses, a mix of housing choices to accommodate a range of income levels and generations, regional growth management (e.g. urban growth boundary), pedestrian- and bicycle-friendly design, connectivity and reliable and frequent transit service.

Although implementation of the 2040 Growth Concept has resulted in significant changes to local planning and development practices in support of mixed-use development, the upfront cost and complexity of this style of development presents challenges. With growing consumer demand for walkable communities close to transit, services, shopping and other activities, financial success depends on being able to maximize and mix the uses in a way that responds to market conditions, opportunities and economics, provides affordable housing options and is compatible with neighbors and the overall community. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

PEOPLE, PLACES AND PHYSICAL FORM

People The number of people or the development intensity of a given area is often used as a proxy for compact urban form, which directly affects increases in transit ridership.

Places By providing retail goods and services plus employment opportunities in proximity, a diverse environment enhances the viability of alternative transportation.

Physical form The urban form and character of a community such as street grids, connecting sidewalks and bike lanes, and the use of lighting and trees.

5 to 25 percent

Reduction in vehicle miles traveled when doubling the amount of housing in a given area, with highest reductions achieved when accompanied by mixed uses, biking and walking connections and transit service

1 to 6 percent

Reduction in VMT for every mile closer to a transit station a person lives, an effect likely to occur within 2 miles of a rail station and three-quarters of a mile of a bus stop, depending on transit frequency

COMBINED IMPACT

People, places and physical form are highly correlated attributes of a community. Therefore, doubling the density within an area, combined with policies that affect land use diversity, neighborhood design and access to transit can have significant impacts on travel behavior.

Up to 25 percent

Reduction in VMT and CO_2 emissions by combining land use and transportation strategies, depending on the combination of strategies implemented

Metro

About Climate Smart Communities Scenarios

The Portland metropolitan area has made great strides in creating vibrant neighborhoods, providing transportation options and protecting farmland. Many of these policies have saved residents money on gasoline and preserved clean air and water.

Building on these efforts, Metro and the State of Oregon have launched a multiyear project to learn what it will take to reduce emissions from cars, small trucks and SUVs as the region enhances its economy and creates more vibrant neighborhoods. The intent is to see how addressing climate change can help create more of the communities residents have enjoyed for years, while meeting state GHG reduction targets.

The Climate Smart Communities Scenarios Project takes a collaborative approach to building livable, prosperous, equitable and climate smart communities.

Information for these fact sheets was derived from the Scenarios Project *Strategy Toolbox*, a review of the latest research on greenhouse gas emissions reduction strategies and the benefits they bring to the region.

Stay up-to-date on the scenarios work
www.oregonmetro.gov/climatescenarios

This factsheet is one of seven in a series:

Mixed-use development in centers and corridors
Active transportation and complete streets
Public transit service
Parking pricing, tolls, fees and insurance
Education, marketing and commuter programs
Traffic and incident management
Fleet mix, turnover, technology and fuels

CO-BENEFITS

Public health and safety benefits

- increased physical activity from walking and biking, leading to reduced risk of obesity, diabetes, heart disease and premature death
- enhanced public safety; reduced risk of traffic injuries and fatalities
- improved air quality and fewer air toxics emissions, leading to reduced risk of asthma, lung disease and premature death

Environmental benefits

- lower levels of pollution
- less energy use
- natural areas, farm and forest protection

Economic benefits

- job opportunities
- improved access to jobs, goods and services
- consumer savings in home energy and transportation
- municipal savings
- leverage private investment, increased local tax revenues
- increased property values
- reduced fuel consumption, leading to less dependence on foreign oil
- improved energy security

SYNERGY WITH OTHER STRATEGIES

- active transportation and complete streets
- public transit service
- parking pricing
- tolls, fees, and insurance
- public education and marketing
- individualized marketing
- employer-based commuter programs
- traffic management
- fleet mix and turnover

IMPLEMENTATION

While mixed-use development can reduce public costs and increase access to social, economic and employment opportunities, it can be more complicated and have significantly higher upfront costs than traditional single-use development. However, given its cost effectiveness in the long term when compared to alternatives, it is integral to use incentives to reduce upfront costs and simplify the process. The resulting increase in economic activity in these areas is good for the local economy and can be reinvested in on-site amenities and expanding transportation choices.

Active transportation and complete streets

Active transportation means bicycling, walking and access to transit. 'Complete streets' are streets designed and operated with all users in mind, including people driving cars, riding bikes, using a mobility device, walking or riding transit. For years the Portland metropolitan area has employed this strategy as a key component to reduce the need to drive, to expand travel choices and to help support the region's 2040 Growth Concept vision for compact mixed-use development in centers and corridors. While the region is recognized as a national leader in active transportation, the region's investment in bicycling and walking facilities has been piecemeal and opportunistic due to a lack of funding and a regionally agreed upon implementation strategy. This has resulted in a less-than-seamless network that limits opportunities to safely walk or bike in many areas of the region. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

GHG REDUCTION

Research has found significant greenhouse gas reduction potential with implementation of pedestrian and bicycle infrastructure when combined with land use and transit strategies.

9 to 15 percent
Reduction in GHG emissions when linking pedestrian and bicycle infrastructure with land use and transit strategies

VMT REDUCTION

Half of all personal vehicle trips in the U.S. are less than three miles in length – a distance well-suited for biking. Travel by bike is a realistic option, especially for shorter distances. Expanding bike networks to provide safe, convenient and connected routes is directly linked to an increased number of bike trips and can help reduce vehicle miles traveled in the region.

26 percent
Reduction in VMT per day in areas with interconnected paths, compared to the most sprawling areas in King County, Wash.

ECONOMIC BENEFITS

Research has shown there are economic benefits of expanding pedestrian and bicycle infrastructure including: lower cost of implementation, creation of more jobs compared to other capital projects, an increase in retail and tourism activity, and averted healthcare costs.

9 to 12
Jobs created per $1 million of pedestrian and bicycle infrastructure spending in U.S.

Metro

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Building on these efforts, Metro and the State of Oregon have launched a multiyear project to learn what it will take to reduce emissions from cars, small trucks and SUVs as the region enhances its economy and creates more vibrant neighborhoods. The intent is to see how addressing climate change can help create more of the communities residents have enjoyed for years, while meeting state GHG reduction targets.

The Climate Smart Communities Scenarios Project takes a collaborative approach to building livable, prosperous, equitable and climate smart communities.

Information for these fact sheets was derived from the Scenarios Project *Strategy Toolbox*, a review of the latest research on greenhouse gas emissions reduction strategies and the benefits they bring to the region.

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Fleet Mix, Turnover, Technology, and Fuels

CO-BENEFITS

Public health and safety benefits

- increased physical activity from walking and biking, leading to reduced risk of obesity, diabetes, heart disease and premature death
- enhanced public safety; reduced risk of traffic injuries and fatalities
- improved air quality and fewer air toxics emissions, leading to reduced risk of asthma, lung disease and premature death

Environmental benefits

- lower levels of pollution
- less energy use

Economic benefits

- job opportunities
- improved access to jobs, goods and services
- consumer savings in home energy and transportation
- municipal savings
- leverage private investment, increased local tax revenues
- increased property values
- reduced fuel consumption, leading to less dependence on foreign oil
- improved energy security

SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- public transit service
- parking pricing
- public education and marketing
- individualized marketing
- employer-based commuter programs

IMPLEMENTATION

Completion of a well-connected and seamless active transportation network is the key to its success, particularly when combined with land use, public transit and public education strategies. Developers and local and state governments typically construct bicycle and walking facilities. Constructing pedestrian and bicycle infrastructure has a relatively low cost of implementation, but can require prioritization for completion. As communities become more diverse, there is a need to ensure that these investments are relevant to multiple demographics.

Public transit

Transit effectively links riders not only to their destinations, but also to other travel options like routes for bicycling and walking. Park-and-ride lots offer drivers a transit connection and an alternative to driving alone to work or other destinations.

Research on transit tends to focus more on increases in ridership (both total and per capita) rather than vehicle miles traveled and greenhouse gas emissions. However, inferences about reductions in VMT and related emissions can be made based on ridership increases. Four transit strategies offer opportunities to reduce GHG emissions by increasing public transit ridership. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

FREQUENCY

High quality, frequent transit service is one of the most effective strategies to increase ridership and is especially important for attracting riders who take short, local trips.

Up to 2.5 percent
Reduction in GHG emissions when service frequency is increased

SYSTEM EXPANSION

This strategy can help a region concentrate development and growth in centers and corridors. Extending the system both through high capacity transit and bus service can increase transit ridership, potentially shifting more riders from cars.

1 to 8 percent
Reduction in GHG emissions when the transit network is expanded

FARES

Modifying fares will increase transit ridership and potentially reduce VMT, but effectiveness depends on the design of the fare system and the cost.

1,500 metric tons
Reduction in CO_2 when Bay Area Rapid Transit (BART) allowed children to ride free with a paying adult on weekends

TRANSIT ACCESS

All transit riders are pedestrians; living in close proximity to transit and building safer, more appealing pedestrian environments that provide access to transit help increase ridership.

1 to 6 percent
Reduction in VMT for every mile closer to a transit station a person lives, an effect likely to occur within two miles of a rail station and three-quarters of a mile of a bus stop, depending on transit frequency

Metro

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- improved energy security

SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- active transportation and complete streets
- parking pricing
- tolls, fees and insurance
- employer-based commuter programs
- traffic management
- fleet mix and turnover

IMPLEMENTATION

Public transit strategies have been shown to have a multiplier effect when combined with other strategies, and should be considered in conjunction with other strategies. Increases ridership will vary widely depending on the type of improvements, the location and the number of people living and working in the area. Implementation of this strategy must also incorporate transit equity and environmental justice considerations.

Parking pricing, tolls, fees and insurance

Pricing strategies charge users directly for using transportation facilities. Research shows parking pricing, congestion pricing, cordon pricing, mileage-based fees, and pay-as-you-drive-insurance can be used to reduce GHG emissions. The research also suggests that these strategies are more successful when implemented in combination with community design and other management strategies. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

PARKING PRICING

Parking fees Long- or short-term fees in mixed-use areas and residential parking permits

Limiting parking supply to meet demand Establishing maximum parking requirements or creating a shared parking provision

1 to 2 percent
Reduction in GHG emissions when parking strategies are implemented

5 to 12 percent
Potential reduction in vehicle miles traveled when limiting parking

TOLLS AND FEES

Cordon pricing A vehicle is charged a toll when passing through a cordon around a congested area, such as a central city

Congestion pricing Charging tolls that vary depending on roadway congestion to help manage traffic flow

Mileage-based fee A fee is collected according to the number of miles that a vehicle is driven

20 percent
Redution in CO_2 since cordon pricing was implemented in London

20 percent
Reduction in GHG emissions by 2050 if congestion pricing alone was implemented

1 to 5 percent
Reduction in GHG emissions by 2050 if a mileage fee alone was implemented

INSURANCE

Pay-as-you-drive insurance A PAYD insurance premium is based on annual miles driven per vehicle; the crash risk increases the more the vehicle is driven.

1 to 3 percent
Reduction in GHG emissions by 2050 if pay-as-you-drive insurance alone was implemented

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Public health and safety benefits

- reduced number of uninsured motorists
- improved air quality and fewer air toxics emissions, leading to reduced risk of asthma, lung disease and premature death

Environmental benefits

- lower levels of pollution

Economic benefits

- more available land for development or preservation
- new revenues
- reduced fuel consumption; reduced reliance on foreign oil
- consumer savings in transportation

SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- active transportation and complete streets
- public transit service
- public education and marketing
- employer-based commuter programs
- traffic management

IMPLEMENTATION

Pricing strategies have been shown to achieve substantial reductions in GHG emissions because they prompt reductions in travel and spur improvements in fuel economy. Research shows the greatest potential for reducing GHG emissions exists in PAYD insurance, mileage fees and parking pricing. PAYD insurance and a mileage fee could be implemented by the state. Parking management and pricing strategies are traditionally implemented at the community level in commercial districts, downtowns, and main streets. Potential strategies for implementation at the regional level are cordon pricing and a system of variable congestion pricing on freeways and major arterial roads. Public acceptance, communications, evaluation of benefits and costs (including equity and fairness) and use of revenues generated pose specific issues and challenges to be addressed.

Education, marketing and commuter programs

Education and marketing programs are an effective component to reducing greenhouse gas emissions. They are less costly to implement than building new infrastructure and are widely supported by the public. These strategies are complementary to many other strategies because of the ability to educate the public with a diverse range of perspectives in mind. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

PUBLIC EDUCATION

Eco-driving A combination of driving behaviors and techniques that results in more efficient vehicle operation, reduced fuel consumption and reduced emissions

5 to 33 percent
Improvement in fuel economy when using gentle acceleration and braking while driving

Travel options education Public programs that raise awareness of smart trip choices including carpooling, vanpooling, ridesharing, telecommuting, biking, walking and riding transit

7 to 23 percent
Improvement in fuel economy when observing speed limit and not exceeding 60 mph (where legally allowed)

INDIVIDUALIZED MARKETING

Individualized marketing An outreach method where individuals interested in making changes to their travel behavior participate in a program that is tailored to their specific needs

4 to 19 percent
Reduction in GHG emissions from trip-related emissions in a range of individualized marketing programs

EMPLOYER-BASED COMMUTER PROGRAMS

Financial incentives Transit pass programs, offering cash instead of parking (parking cash-outs), parking pricing and tax incentives (both business and individual)

Up to 20 percent
Reduction in commute trips, depending on the daily rate charged for workplace parking

Facilities and services Include ride-matching and carpooling programs, end-of-trip facilities (i.e. showers, bike parking), guaranteed ride home and events and competitions

Up to 13 percent
Reduction in commute trips when employers provide vanpools or shuttles to transit stations or commercial centers

Flexible scheduling Telecommuting and compressed or flexible workweeks

Up to 6 percent
Reduction in commute trips when flexible scheduling is encouraged

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Environmental benefits

- lower levels of pollution
- less energy use

Economic benefits

- job opportunities
- increased access to jobs, goods and services
- consumer savings
- reduced fuel consumption; reduced reliance on foreign oil
- increased cost effectiveness of transit investments through improved ridership

SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- active transportation and complete streets
- public transit service
- tolls, fees and insurance
- traffic management
- vehicle technology and fuels

IMPLEMENTATION

Education and marketing programs are effectively implemented at local, regional and state levels by a variety of public, private and nonprofit partners. Employer-based commuter programs like Oregon's Employee Commute Options Program or the *Drive Less Save More* campaign managed and coordinated by state, regional and local governments, while businesses are responsible for implementation. Education and marketing programs are often successful when targeting neighborhoods with existing access to transportation options or planned transportation improvements.

Traffic and incident management

Management strategies use intelligent transportation systems (ITS) to help traffic move more efficiently and smoothly. These tools increase vehicle flow, reducing the rapid acceleration, deceleration and idling associated with congestion. They also reduce vehicle emissions, improve safety and restore traffic patterns to an efficient state. The individual management strategies (ramp metering, active traffic management, traffic signal coordination and traveler information) complement each other because the information available to drivers influences route choice and the timing of trips. When implemented in combination, they have a greater potential for reducing greenhouse gas emissions. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

TRAFFIC MANAGEMENT

Ramp metering Use traffic signals at freeway on-ramps to regulate the rate of vehicles entering the freeway

Active traffic management Use signs to share variable speed limits and real-time traffic information to maximize the efficiency of a specific roadway

Traffic signal coordination Time traffic signals to improve vehicle speeds and flow to reduce delay at intersections

Traveler information Use signs, the Internet or phone services to update drivers with real-time traffic information

1 to 2 percent
Reduction in GHG emissions if national speed limits were reduced to 55 miles per hour

75,000 gallons
Annual fuel savings estimated from implementation of an adaptive signal system in the city of Gresham, Oregon

169,000 tons
Annual reduction in CO_2 after Portland, Ore. retimed 150 signalized intersections; equal to taking 30,000 cars off the road

TRAFFIC INCIDENT MANAGEMENT

A coordinated process to detect, respond to and remove traffic incidents from the roadway as safely and quickly as possible, reducing non-recurring roadway congestion

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Economic benefits

- consumer savings
- reduced fuel consumption; reduced reliance on foreign oil
- increased access to jobs, goods and services
- business savings

SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- public transit service
- parking pricing
- tolls, fees and insurance
- public education and marketing

IMPLEMENTATION

This suite of management strategies can be implemented by local, regional or state agencies. In addition, in order for these strategies to have the desired effects of improving traffic flow, reducing emissions and improving safety, it is important for investments and systems to be coordinated throughout the region. The Portland region has had an incident management program in place since 1997 that has continued to improve incident detection, response time, and clearance time through added staff and vehicles, ITS equipment coverage, and Transportation Management Operations Center upgrades. Since 2005, Metro has actively managed regional coordination and integration of these strategies through TransPORT, a regional committee led by Metro in partnership with staff from cities, counties, TriMet, the Oregon Department of Transportation and other transportation system providers.

Fleet mix, turnover, technology and fuels

There are a variety of strategies, vehicle technologies and fuels available to reduce GHG emissions including development of higher fuel economy standards, lowering the carbon content of fuels and deployment of electric vehicles and plug-in hybrids. The GHG emissions reduction potential of these strategies is directly related to the combination and pace at which these strategies are implemented over time, and the types, convenience and affordability of vehicle technologies and supporting infrastructure made available to businesses and consumers. The potential reductions highlighted below are not additive and vary depending on the combination of strategies implemented.

FLEET MIX AND TURNOVER

Fleet mix The percentage of vehicles classified as automobiles compared to the percentage classified as light trucks (weighing less than 10,000 pounds); light trucks make up 43% of the light-duty fleet today.

Fleet turnover The rate of vehicle replacement or the turnover of older vehicles to newer vehicles; the current turnover rate in Oregon is 10 years.

58 percent
Improvement in average fuel economy of vehicles sold under the C.A.R.S. rebate program

0.6 to 1.4 million tons
CO_2 reduction projected annually if 60,000 light trucks were replaced with hybrid trucks; equal to taking 249,000 cars off the road nationally

VEHICLE TECHNOLOGY AND FUELS

Fuel economy Fuel economy standards are expected to strengthen in the future. The federal standards culminate in a fleet-wide average of 35.5 miles per gallon by 2016, with a proposed standard of 54.5 mpg by 2025.

Carbon intensity of fuels This strategy is usually regulated through low carbon fuel standards, which encourage higher adoption rates of alternative fuel vehicles and more production of lower carbon fuels.

Electric vehicles and plug-in hybrids Electric vehicles are battery powered only, while plug-in hybrids are conventional hybrids with batteries that can be charged at an electrical outlet.

19 percent
Reduction in GHG emissions from light-duty vehicles by 2030 if a 35.5 miles per gallon fleet-wide average is achieved by 2016

25 percent
Reduction in CO_2 per mile from a plug-in hybrid powered by an old coal plant versus a conventional gasoline vehicle

.4 to 20 percent
Reduction in GHG emissions from deployment of electric or hybrid vehicles

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SYNERGY WITH OTHER STRATEGIES

- mixed-use development in centers and corridors
- public transit service
- public education and marketing
- individualized marketing

IMPLEMENTATION

Much work is being done at state and federal levels to expand the number of vehicles available with higher fuel efficiency and lower emissions, and to reduce the carbon content of fuels. Pilot projects and other policies can be implemented at the local and regional levels to support these efforts.

Policies include developing a reliable network of public and private electric vehicle charging stations and supportive infrastructure, providing consumer and businesses incentives to make the higher initial purchasing costs of hybrid and electric vehicles more affordable, government and corporate purchases to increase visibility, supportive permitting and codes for vehicle charging stations and public education. Anxiety related to distances between charging stations are among the issues that need to be addressed.

Attachment 3

METRO

Climate Smart Communities Scenarios TPAC/MTAC Work Group Members

	Name	Affiliation	Membership
1.	Tom Armstrong	City of Portland	MTAC alternate
2.	Andy Back	Washington County	TPAC alternate & MTAC alternate
3.	Chuck Beasley	Multnomah County	MTAC
4.	Lynda David	Regional Transportation Council	TPAC
5.	Jennifer Donnelly	DLCD	MTAC
6.	Denny Egner	City of Lake Oswego	MTAC member
7.	Karen Buehrig	Clackamas County	TPAC
8.	Mara Gross/Chris Beane	TPAC citizen members	TPAC members
9.	Jon Holan	City of Forest Grove	MTAC alternate
10.	Katherine Kelly/Jonathan Harker	City of Gresham	TPAC member/MTAC member
11.	Nancy Kraushaar/Kenny Asher	City of Oregon City/City of Milwaukie	TPAC member/TPAC alternate
12.	Alan Lehto/Jessica Tump	TriMet	TPAC/MTAC
13.	Mary Kyle McCurdy	MTAC citizen/community group	MTAC member
14.	Margaret Middleton	City of Beaverton	TPAC member
15.	Tyler Ryerson	City of Beaverton	MTAC alternate
16.	Lainie Smith	ODOT	TPAC alternate and MTAC

For more information or to be added to the work group interested parties list, contact Kim Ellis at kim.ellis@oregonmetro.gov.

October 24, 2011

Materials following this page were distributed at the meeting.

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A SERVICE OF METRO

Presented by: FredMeyer With support from: BOEING

Designing the New Cities of China: Blending Ancient Traditions with 21st Century Sustainability

For the Metro Policy Advisory Committee

Nov.9th 2011

Jie Hu

- Director & Chief Designer, Department of Landscape Architecture, THUPDI
- Associate Professor, School of Architecture, Tsinghua University
- Registered Landscape Architect
- Member, American Society of Landscape Architects (ASLA)
- Council Member, Chinese Society of Landscape Architecture

Case Study 1:

Beijing Olympic Forest Park Planning and Design, China

Beijing Olympic Forest Park

Axis to Nature - A City in Harmony with Man-made Shan-shui

☐ General Planning Concept

"Man follows Earth, Earth follows Heaven, Heaven follows the Dao, the Dao follows Nature"

It is the first time that China and its ancient capital city Beijing has held an Olympics games, so the question of how to incorporate China's 5,000-year history into the planning and design was a key element in the project's success. We had to interpret Chinese traditional culture from many aspects, as follows.

Urban Design

- Chinese Weighing Scale
- Chinese Dragon Stream

Winner Master Plan by Sasaki

Winner Plan by Sasaki and THUPDI

Urban Design

- Chinese Weighing Scale
- Chinese Dragon Stream

Implementation Plan

Project Background

The site of the park is 680 ha. and is located in the North of urban Beijing where the city meets natural forests. It is the northern end of the historical South-North Central Axis around which the city developed and along which are situated National monuments such as the Forbidden City, Jingshan Mountain, etc.

Project Background

- **The historical south-north axis is the greatest axis in urban construction history. The ancient structures such as Tian An Men Square, the Forbidden City and Jingshan Park are situated on the axis and establish great importance to the axis.**
- **The axis has witnessed the changes in the history of Beijing and has carried the symbol and memory of history, culture and politics.**
- **How to continue history and culture of central axis on the Olympic Forest Park site is the first tremendous challenge that we are facing.**

Culture & Nature

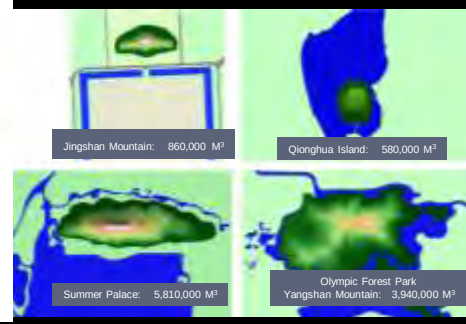
As a key component of the Olympic Green, it is part of a master plan entitled **'Axis to Nature'** established by the Olympic Committee and designed to make a transition from the urban environment; from a severe urban context to a new ecosystem planned according to principles of sustainable development.

In order to respect the cultural significance of the Central Axis and the urban context of the Forest Park, the laws of **Feng Shui** guided preliminary design workshops to create the landscape formations. The design was developed to merge traditional Chinese landscape concepts that emphasize the need for the artificial to appear natural and harmoniously picturesque, with contemporary technologies.

The Biggest Urban Park in Beijing

Main Mountain——Yangshan Mountain

The analysis of other important mountains in Beijing helped to establish the location, orientation, dimensions and design of our new landforms.



Why we build an artificial mountain here:

The mountain was constructed with the construction and excavation for the Olympic Subway, Olympic Avenue and adjacent development area.

No new soil was brought into the Olympic Forest Park site to construct the mountain.

The mountain is a new landmark in the north of the city.

Looking South along Central Axis

Tian Jing (Land of Heaven) ——The Peak of Yangshan Mountain

- To Consider Cultural Design Heritage
- To Refer to Chinese landscape Art
- To Express the Harmony between Man and Nature

Tian Jing is enhanced with tall Chinese pines, scenic stones and a sight-seeing platform. Visitors can pause here for a brief appreciation of the views of the Lake and central axis or can linger longer to enjoy the enchanting scenes.

Aohai Lake – the Main Lake in the Park

Brooks Running down the Forests

Water falls from the mountain to form brooks that flow through forests to the main lake.
A series of scenes are designed around the brooks which progressively pass through ecological plant communities of mixed woods, grassland, and lakeside wetlands.

Plan

Rendering

Model

Discussion with Experts

Entrance and Open Amphitheatre

Small Amphitheater in Forest

Water System

Total Water Surface	67.7 ha
Water Surface of the Main Lake	20.3 ha
Constructed Wetland Surface	5.71 ha
Municipal River Surface	25 ha
Existing Water System	16.69 ha

Olympic Forest Park is the first domestic urban park overall making use of reclaimed water as the source of water system and recharge for landscape water.

The largest technical challenges of Olympic Forest Park involves construction of a self-sustaining and self-regulating water body.

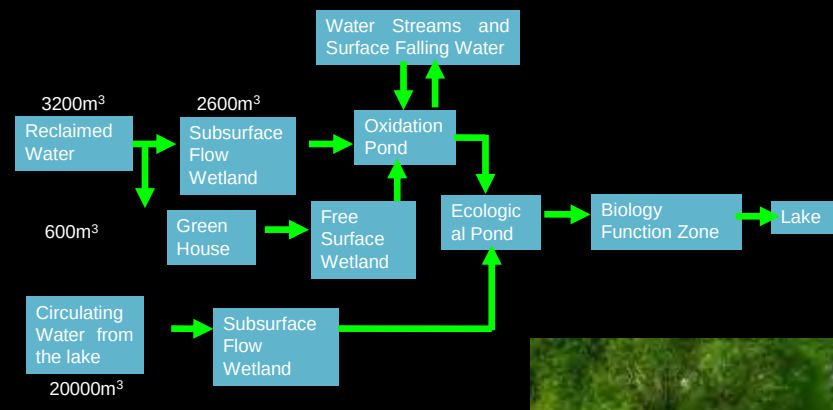
Therefore, studies were necessary to evaluate how to best use the existing natural water on and around the site, how to collect and reclaim rain and flood water, how to plan an effective water purifying and maintenance system, how to optimize the water circulation and irrigation system through recycling waste water.

Different patterns of water circulation have been analyzed and implemented to address the differences between the flood and other seasons.

A hydrological and water quality simulation process (EFDC, WASP) was used to study water system maintenance.

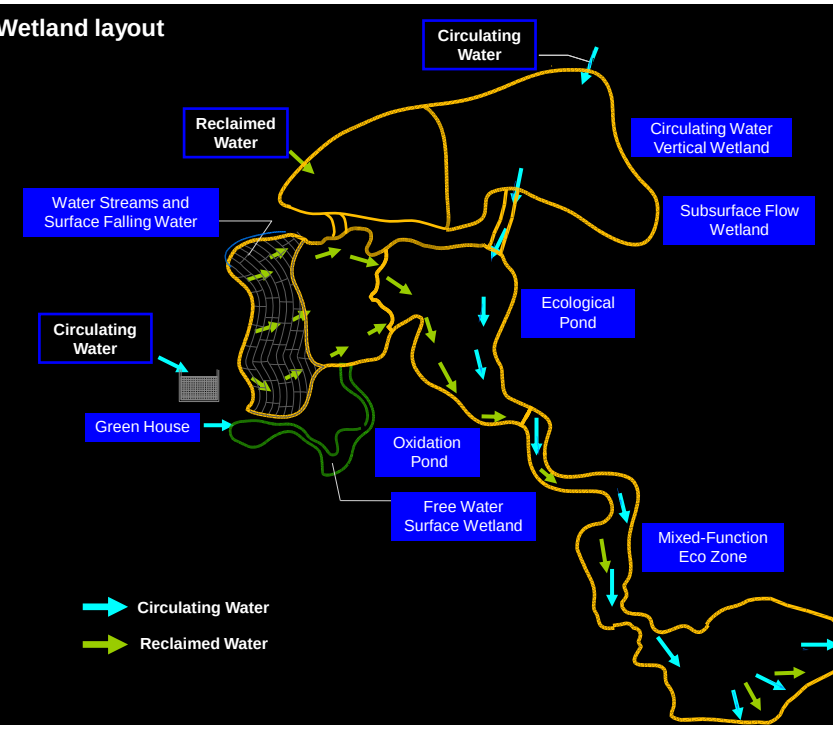
A compound water treatment system of hierarchical processes was established.

Water Treatment Process in Wetlands



- Increase the liability of the entire water treatment system
- Demonstrate a variety of water treatment technologies
- Integrate water treatment functions with scenic effects
- Construct a natural and ecological treatment system
- Provide educational center for ecological education

Wetland layout



Subsurface Flow Wetland

Subsurface Flow Wetland

Subsurface Flow Wetland

Free Water Surface Wetland

Free Water Surface Wetland

Birds at Wetland

Underwater Corridor

- Observation of wetland from a different view
- Education for the structure of wetland
- Block off water flow
- Slow water speed

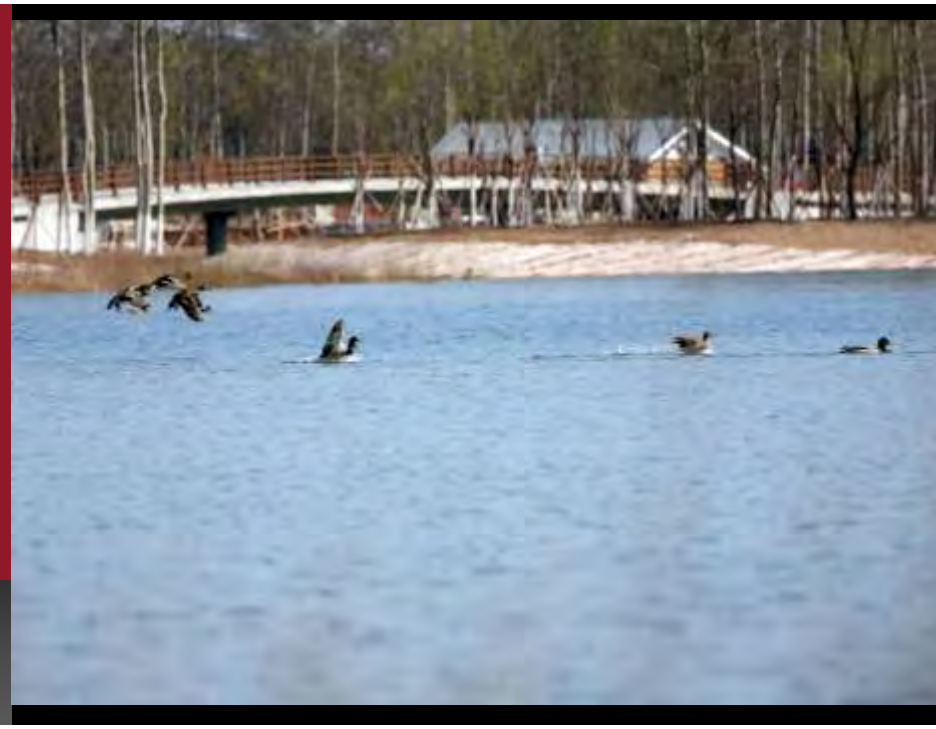
Underwater Corridor

Flowers Terrace

- Aeration
- Scenic Effects

Ecological Contributions to Beijing

- Annual output of Oxygen：5400t
- Absorption of CO_2： 7200t
- Annual absorption of SO_2：32t
- Annual dust detainment by trees：4905t
- Annual recharge of water：67.5m^3
- Forest Humility ：27% higher than the other place
- Forest Temperature: 3-5℃ lower in Summer， 2-4℃ higher in Winter



Swift Tower—— The First Swift Tower in China

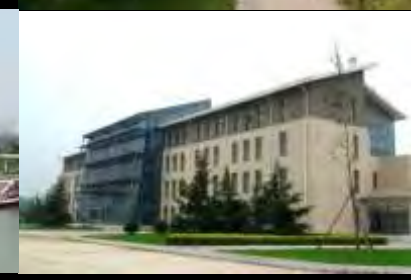
- **Protection:** Protect Beijing Swift Species and Biodiversity
- **Combination:** Ideal Habitat and Special Landscape
- **Creation:** Scientific Techniques and Artistic Form

Ecological Corridor

- Location: Over the highway known as the 5th Ring Road, which divide the Forest park as a northern and a southern part.
- Functions: To link southern part and northern part of Olympic Forest park, and to provide pathway for the movement of animals.

Technologies for Eco-buildings

- External Wall Thermal Insulating
- Geothermal Pump System
- Optical Lighting
- Independent humidity and temperature control air conditioning system
- Eco-core System



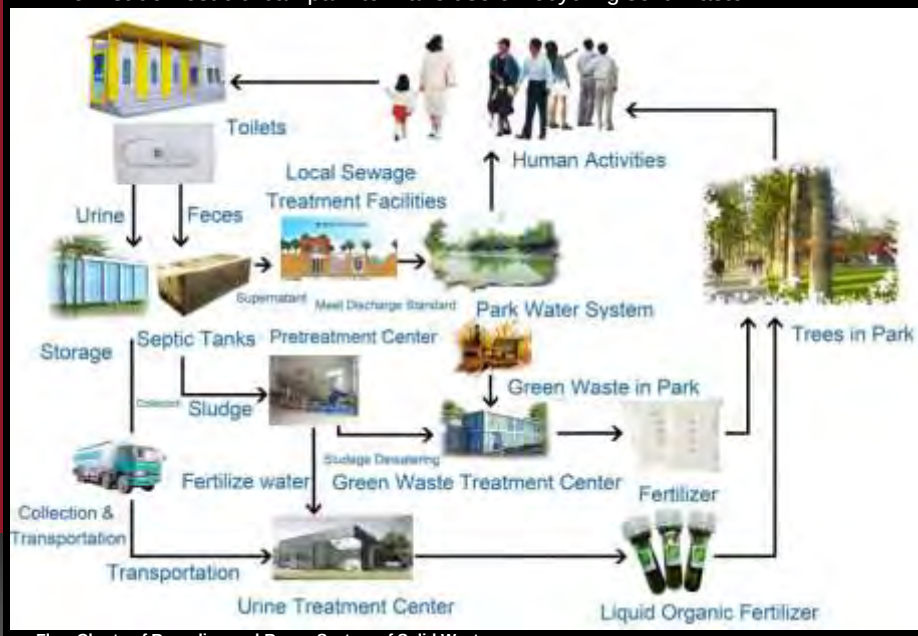
Solar Photovoltaic Panels

- Non-polluted
- Educational
- Environmental benefits

Solar Photovoltaic Panels Combination with Landscape Furniture

Area： 950㎡
Power： 80Kw
Annual Electricity Generation：80,000℃

The first domestic urban park to make use of recycling solid waste.



Flow Charts of Recycling and Reuse System of Solid Waste

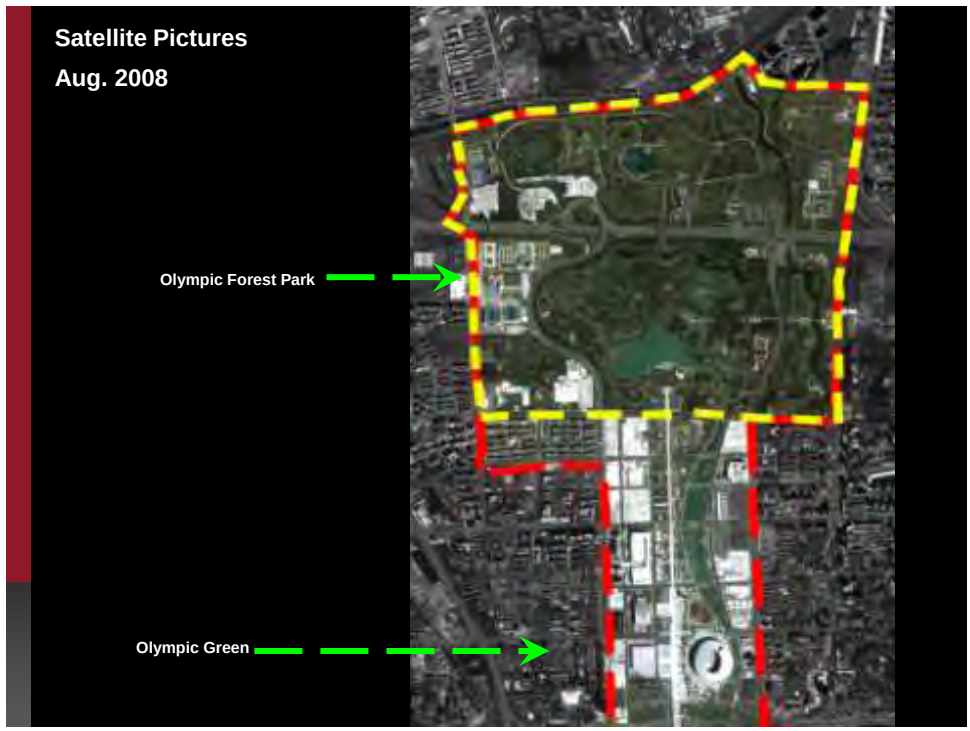
Zero Sewage Discharge in the Park

Main Techniques

- **Membrane Bioreactor （MB）**
- **Fast Bio-degradation Treatment （FBT）**
- **Bio-Degradation of Dejection Treatment （BDT）**

Zero discharge and reclamation ensures zero pollution to environment

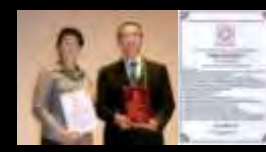

Satellite Pictures
Sep. 2003
Olympic Forest Park
Olympic Green


Satellite Pictures
Aug. 2008
Olympic Forest Park
Olympic Green

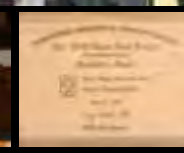
5 International Awards

The only project in Chinese landscape architectural field winning 5 international prizes.

- Green Good Design Award in Green Urban Planning in Landscape Architecture Category – June 2011
- Honor Award, 2009 American Society of Landscape Architects (ASLA) in the General Design Category – September 2009
- President's Award, 2009 International Federation of Landscape Architects of Asia–Pacific Congress (IFLA-APR) Award in Design Category – August 2009
- President's Award ,2008 International Federation of Landscape Architects of Asia–Pacific Congress (IFLA-APR) Award in Landscape Planning Category – February 2008
- First Prize, Torsanlorenzo International Priz Urban Green Space Section – March 2007





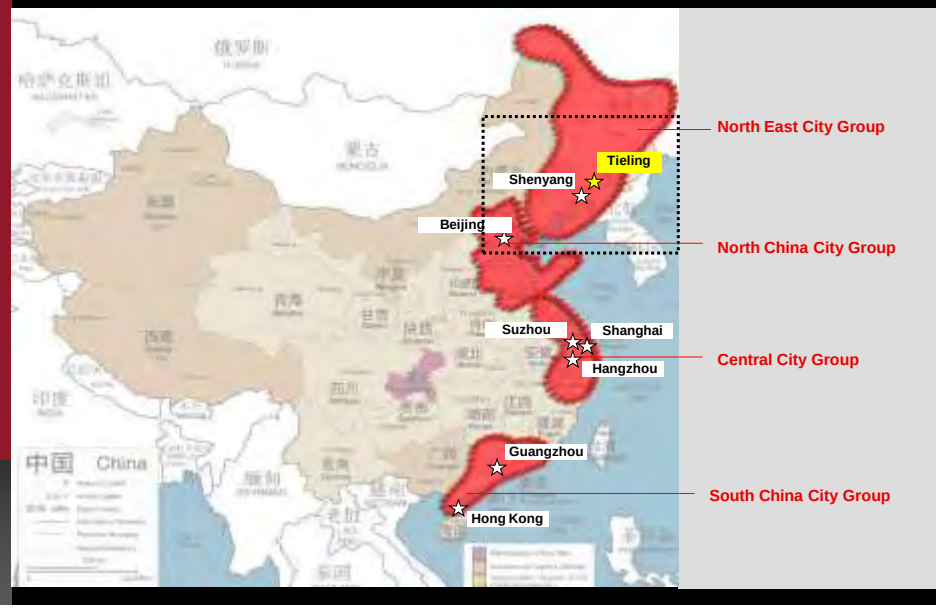
Case Study 2:

Tieling Fanhe New City Planning and Design, China

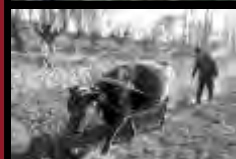
A Garden City - Artificial Landscape Constructed with Natural Landscape

Project Location

The city of Tieling is 35 kilometers away from Shenyang City, one of China's top ten most dynamic cities.

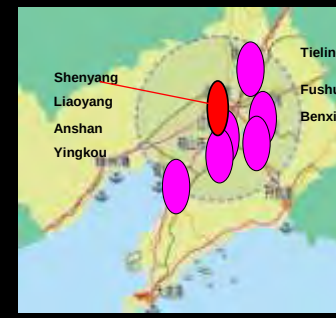


Government Strategies



April 7th, 2005,
7 cities in China signed the "Middle Liaoning Province City Group (Shenyang Economic District) Cooperation Agreement."

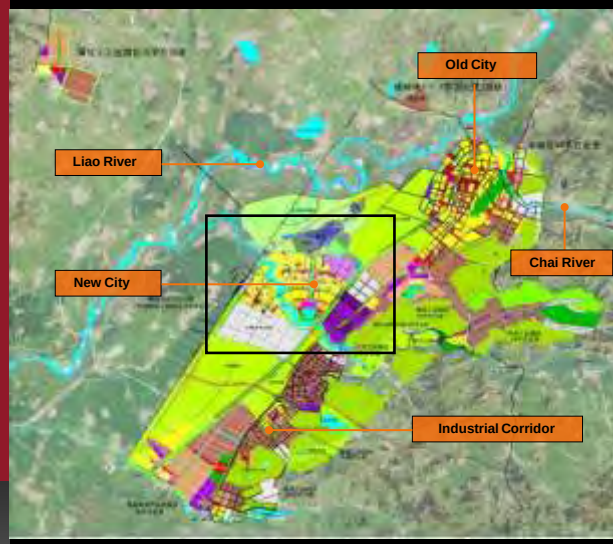
It is a benchmark of the Great Shenyang Strategy implementation.



Dragon Mountain

Chai River

Tieling New City General Plan



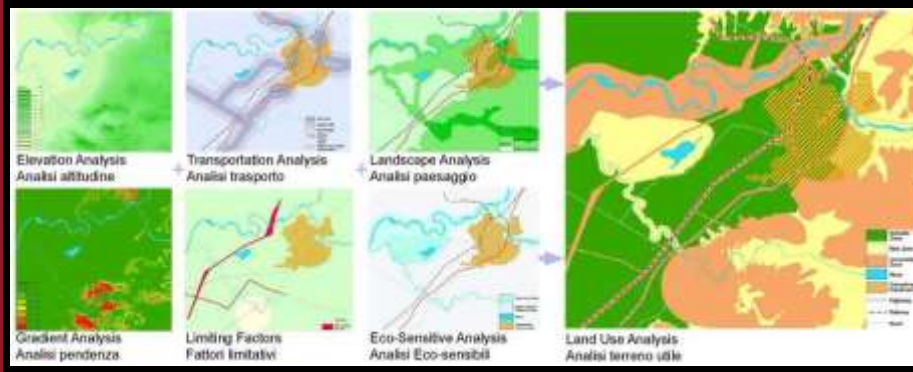
The city of Tieling is 35 kilometers away from Shenyang City, one of China's top ten most dynamic cities.

The New City is located 4 km south of old city's municipal border and 4 km north of the region's High-tech Industrial Development Zone.

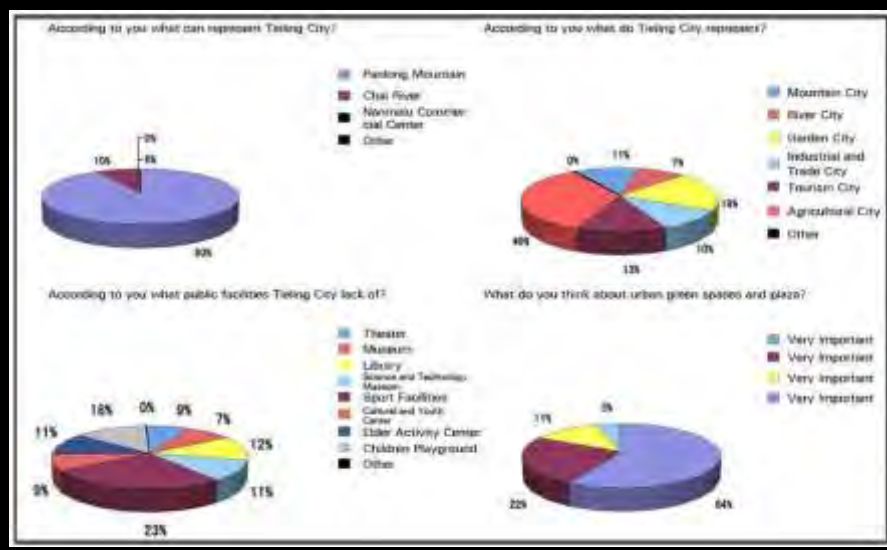
Site Analysis

From the site satellite photos it could be seen that there was no complete natural environment in the New City. The mountain and the city area were separated by National Highway 102 and three artificial railway corridors. Many factories and villages were built at the foot of the Mountain; therefore the ecologically sensitive areas between the Mountain and Liao River were damaged by artificial environment. The Fan River mainly had a mix of narrow and wide river courses, causing unstable water level. The construction of New City may also bring new ecological problems, such as air pollution, noise, groundwater pollution, etc.

Site Analysis



Public Opinion



Firstly, regarding the people's expressed love for the old city's Dragon Mountain and Chai River landscape, they yearned to have a traditional Shan-Shui garden city. Secondly, the area lacked high-quality leisure and entertainment facilities.

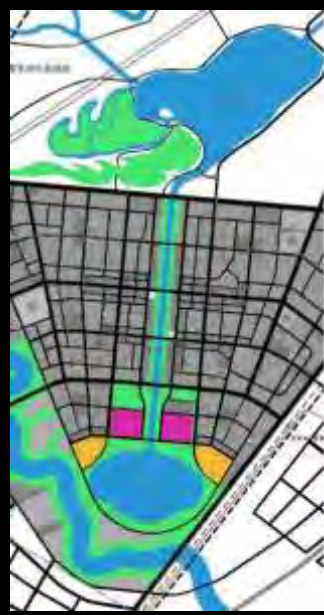
Master Plan

Therefore, we have planned to take advantages and make full use of the existing natural landscape conditions and landscape resources, create a modern ecological Shan-Shui garden city pattern, enhance the city's attractiveness and the cohesiveness of future construction.

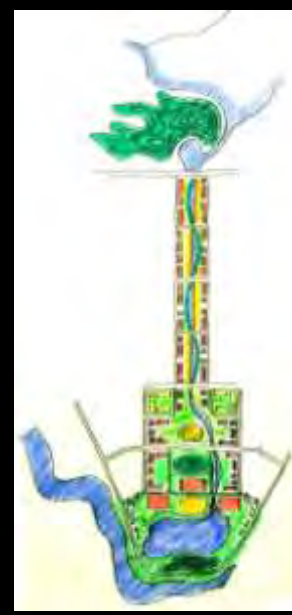
STRATEGIES

1. Emphasize ecological corridors through the city.
2. Protect Lotus Lake Wetland.
3. Develop traditional Chinese characteristics and living environment.

Landscape Planning on the Adjustment of the Master Plan



The Original Master Plan of Tieling Fanhe New City



Conceptive Plan of the Urban Design

Urban Design Master Plan

Strategy 1：Emphasize Ecological Corridors Design

Ecological Corridor 1: Fan River Ecological Axis

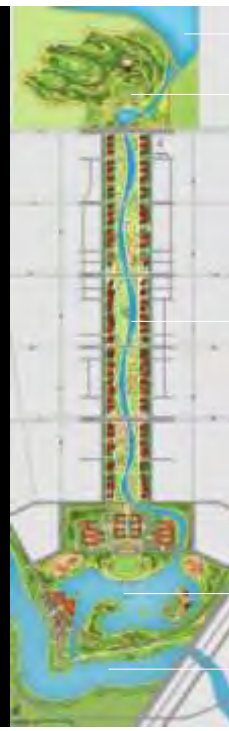
The existing Fan River was only 50-60 meters wide with the ability of resisting flooding at a rate of once every 10 years.

The design has widened Fan River to16 kilometers long and 420 meters wide to create a large-scale ecological corridor with the ability of resisting flooding at a rate of once every 50 years.

Fan River Ecological Axis

It has kept the existing natural river stream and created an interaction between the River and the City.

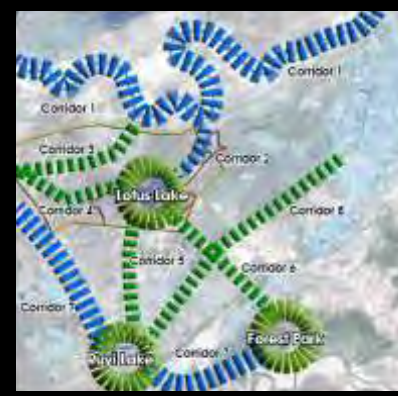
The green coverage rate has reached 80 percent on each riverbank. Although it has reduced construction area, it can improve city's natural features, strengthen the security of migration pathway between the Mountain and the River, and improve urban environment quality and provide leisure and entertainment space.



Ecological Corridor 2:
Tianshui River Urban Cultural Axis

We have built a man-made river-Tianshui River in the middle of the city to form a new city central axis, which can also bring water from Fan River to form the city waterscape and also to enrich the Lotus Lake in the north.

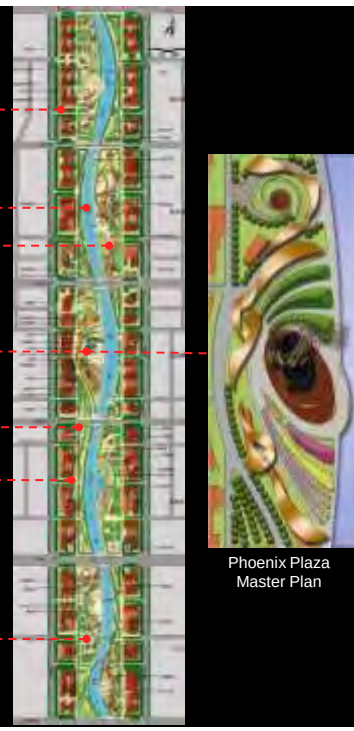
The Tianshui River green space is the richest ecological landscape corridor, both in terms of its environmental protection function and its function as an urban ventilation channel.



Tianshui River Urban Cultural Axis

From the perspective of landscape ecology, it serves as the ecological link between the Lotus Lake Wetland and the Fan River Ecological Corridor.

From an urban disaster prevention perspective, it serves as a safe distribution site for residence. The open space also has commercial function, such as tourism, sports and fitness activities.



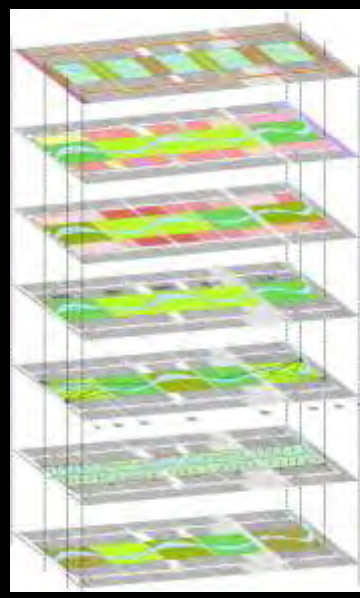
Phoenix Plaza
Master Plan

Traditional Paper-cut

The Phoenix Sculpture

The Paper-cut Style Plaza

Tianshui River – Spatial Use Control



Outer Transport Layer

+

Outer Land-use Layer

+

Outer Density Layer

+

Environment Layer

+

Visual Layer

||

Activity Property Analysis

↓

Conclusion

Special Analysis

Many factors stacking, respectively, to be weighted in order to work out the use of space and space conclusions.

Site utilization will be divided into four levels:

Most Populated Site	4
More Populated Site	2
Less Populated Site	-2
Least Populated Site	-4

Legend

- Most Populated Site
- More Populated Site
- Less Populated Site
- Least Populated Site

Model Photos of Tianshui River

Strategy 2： Protect Lotus Lake Wetland

Lotus Lake region is a mixed composition of degenerating rice fields, abandoned reservoir, fish ponds, and a number of artificial wetlands and natural river wetlands.

Because of the overemphasis on agricultural production, the absence of management and the lack of environmental awareness, the wetland was gradually disappearing and water quality was seriously worsening.

Lotus Lake in Dry Season

Global Flyway of Migratory Bird Route

Northeast three major bird sanctuaries
Lotus Lake source of bird species

located on the East Asian Flyway of Migratory Birds
the region has rich bird's resources:
16 species, 45 families, 95 genus and 165 unique types

Dominate :
43.2% of Liaoning Province bird species,
36.2% of Northeast region bird species
12.4% of the national bird species.

It is the home to Oriental White Storks, Swans, Mandarin Ducks, and other protected birds.

Lotus Lake Wetland Core Area Site Plan

To meet this need for habitats protection, the city government had proposed a national wetland park, with a total area of 47 square kilometers, in order to give legal protection to the bird's habitats.

The first step is to preserve 6.7 square kilometer as core area of Wetland Park to protect and attract birds.

A. Habitat Reconstruction —— Birds and Habitat Types Research

Lotus Lake ecological habitats can approximately be divided into eight types: Open Water, Beach, Swamp, Grass, Tree, Paddy Field, Pond, and Village.

The bird habitats in the area are:
Deep Water 37%, Shallow Water 32%, Cattail Swamp 15%, Reed Swamp 0.32%,Beach 7.62%, Ponds 1.05%, Shrub 3.25%, Trees 3.78%.

A. Habitat Reconstruction —— Existing Conditions Analysis

Existing Land Use Analysis

Existing Environment Analysis

Existing Roads Analysis

Existing Lake Elevation Analysis

A. Habitat Reconstruction —— Bird's Habitats Design

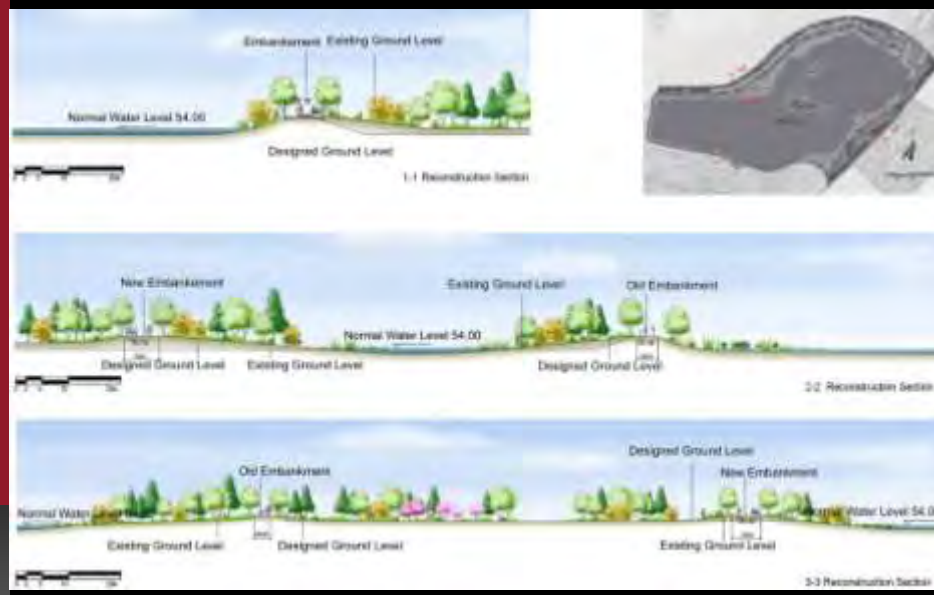
Designed Bird's Habitats Analysis

In the design, Cattail Islands were set up in the center of the Lake, with a total area of around 12 hectares. Water area was enlarged to 90 hectares. A 67 hectare cattail swamp habitat was built in the north.

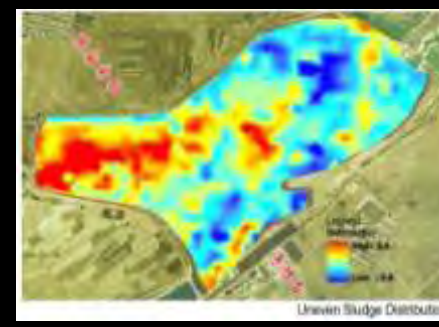
A. Habitat Reconstruction —— Embankment Design

The old embankment was kept and 7.5 kilometer new embankment was constructed outside, thus the old embankment became an isolated island as a more suitable habitat for birds.

A. Habitat Reconstruction —— Embankment Design



B. Artificial Wetland Construction



During spring, autumn and winter seasons the Lotus Lake had only one-third of the total surface water. The water quality could not meet the Standard of China for Landscape Water because of the spot pollution and surface pollution. Long-term sediment accumulation had contaminated the water, difficult for fish to survive.

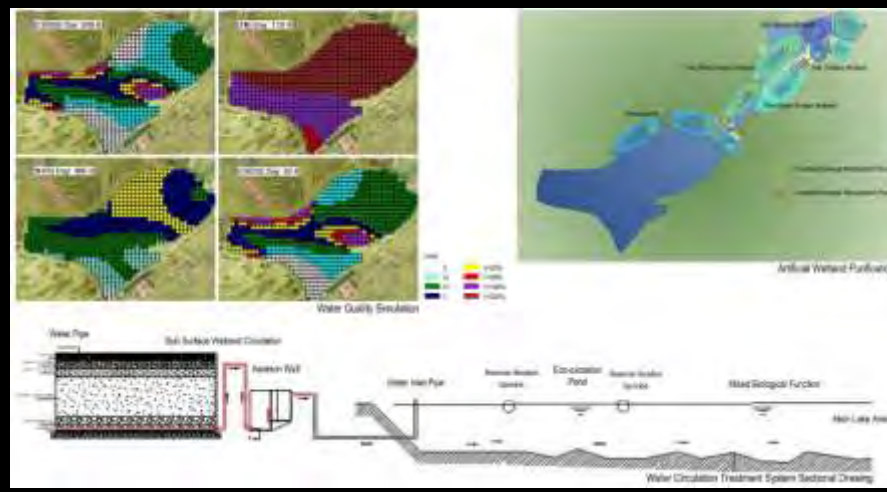
B. Artificial Wetland Construction

Construct a 3.1 kilometer-long artificial river- the "Tianshui River", to bring water from Fan River into the wetland, at the same time, form new urban central axis by waterscape.

Transfer 60,000 tons of sewage water from the sewage plant into the Wetland.

Build an artificial wetland area to treat the sewage water.

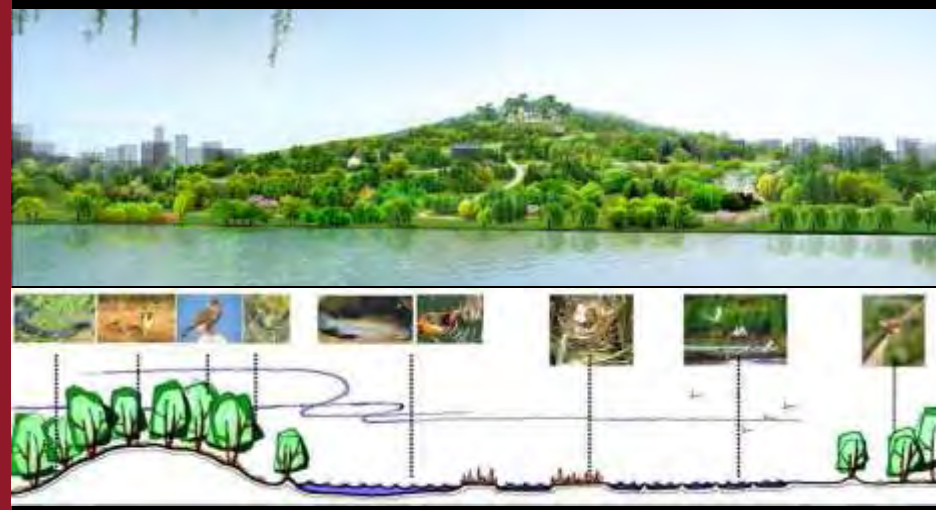
B. Artificial Wetland Construction



The artificial wetland purification area is 67.68 hectares. Wastewater will stay in the wetlands for the total of 7.5 days.

By processing through sub-surface wetland and free-surface wetland, the water can meet the Standard of China for Landscape Water. Therefore the rivers and lakes are fully linked to each other in the New City to provide long-term ecological infrastructure for the water security of the wetland.

C. Return Farmland to Forest



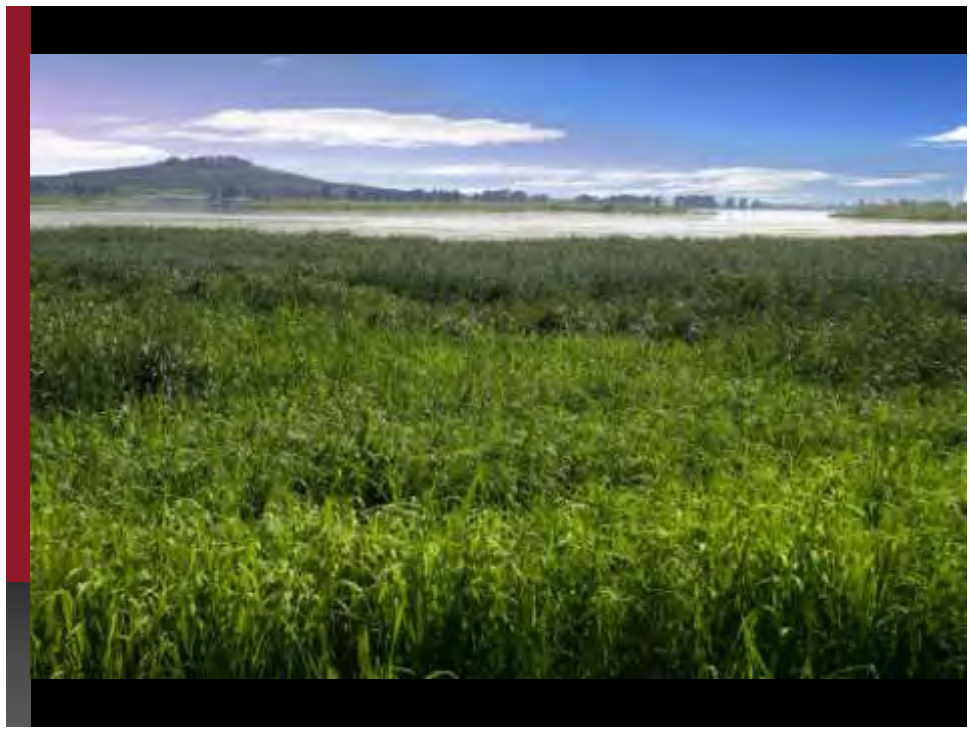
Build Fengguan Mountain with the earth excavation of Tianshui River, with a total green space of 150 hectares on the Mountain.

The richness of the mountain variations and the nearby area of planted trees have made the Lotus Lake a good living environment for many types of birds and wild animals, and have created a complete food chain for this area.

D. Develop Science and Tourism Activities

Bird's Eye View Rendering of Lotus Lake

Site Photo



Strategy 3: Develop Chinese Traditional Culture

Dragon and phoenix – Feng Guan mountain design

There is a Dragon Mountain in the Old City, and therefore we designed Phoenix Mountain to unite the Old City and the New City. The Dragon and Phoenix together is the luckiest sign for Chinese, and represents the Tieling people's longing for a better life.

Feng Guan Mountain (Phoenix Mountain) – Culture Theme

Phoenix (Feng Huang)

Feng : Female
Huang : Male

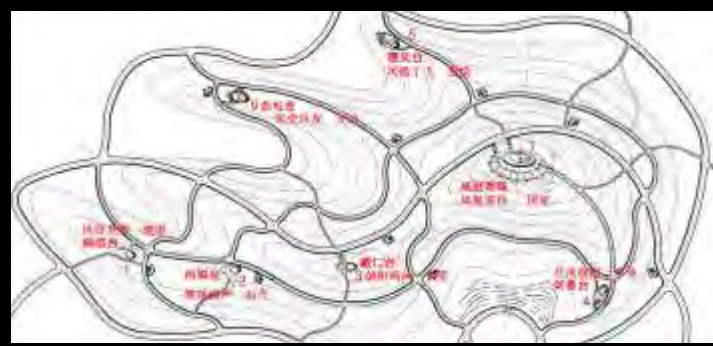
Yin-Yang
Top of the Mountain : Yang
Foot of the Mountain : Yin

Huang Stone Carving at the top of the mountain and Feng Stone Carving at the foot of the mountain, reflects Yin-Yang harmonious combination.

Feng Guan Mountain (Phoenix Mountain) – Culture Theme

There are a total of seven mountains platform for people's rest.
Their names are based on the description of the appearance for Phoenix in the book "Bao Pu Zi".

1. "Phoenix Pearl Platform" – City
2. "Ru Yi Platform" – Career
3. "Dai Ren Platform" – Elders
4. "Ying Yi Platform" – Love
5. "Fu Li Platform" – Friendship
6. "Shang Zhi Platform" – Future generations
7. "Dao Xin Platform" – Healthy

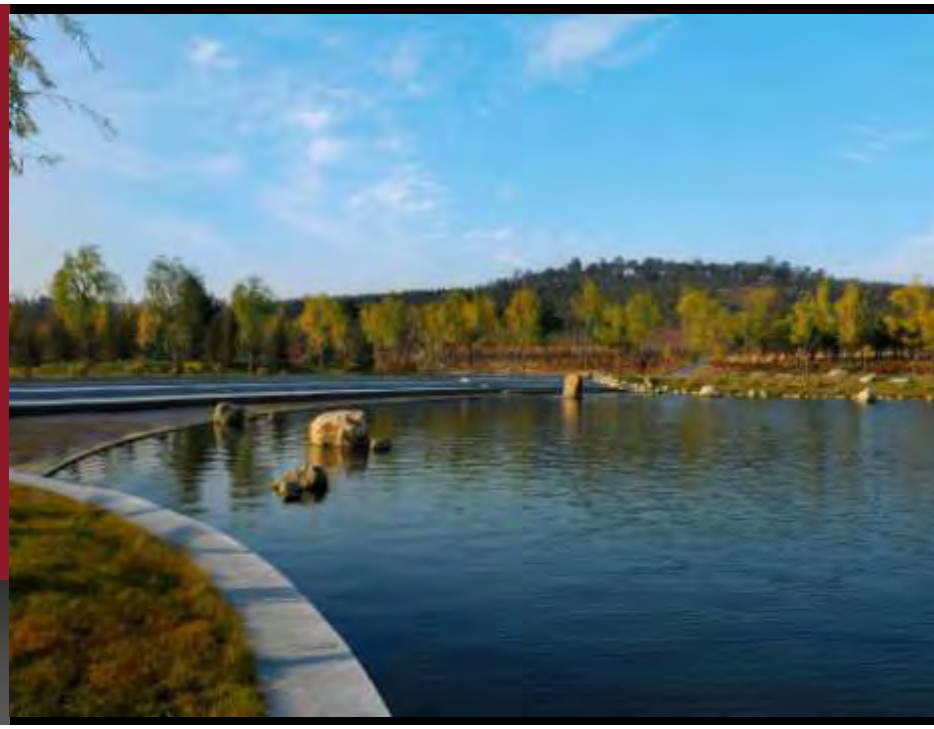


Master Plan

Fengguan Mountain-Bird's View Drawing

Fengguan Mountain-Pictures

Fengguan Mountain-Bird's View Photo1



Ruyi Lake

Ruyi Lake is an important urban landscape that shows the Shan-Shui characteristics.
It's also a combination of the city politics, culture, finance, tourism and other functional services in the city open space.

Night Rendering of Ruyi Lake

Model Photos of Ruyi Lake

Ruyi Lake —— Administration Center

Chinese "**Pin**" Character

The Administration Center represents not only the authority, but also the whole new human-oriented administration ideas. It was placed facing south on the central axis to command the four directions, which followed the eastern philosophy and satisfied the requirements of public safety. Living in a Shan-Shui garden city had long been the dream of everyday Chinese people, in ancient time only the Emperor's imperial garden had such an ideal environment.

Ruyi Lake —— Diamond Plaza

Rendering of Diamond Plaza

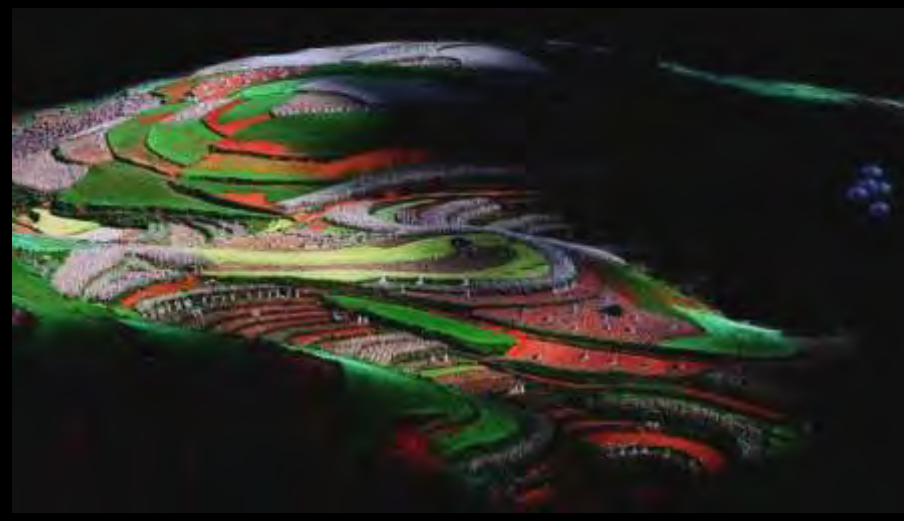
Site Photo of Administration Center and Diamond Plaza

Site Photo of Administration Center and Diamond Plaza

Site Photo of Diamond Plaza

Ruyi Lake —— Birds Island

Ruyi Lake —— Birds Island



Model Photo of Birds Island

Site Photo of Birds Island

Site Photo of Birds Island

September 2006

July 2009

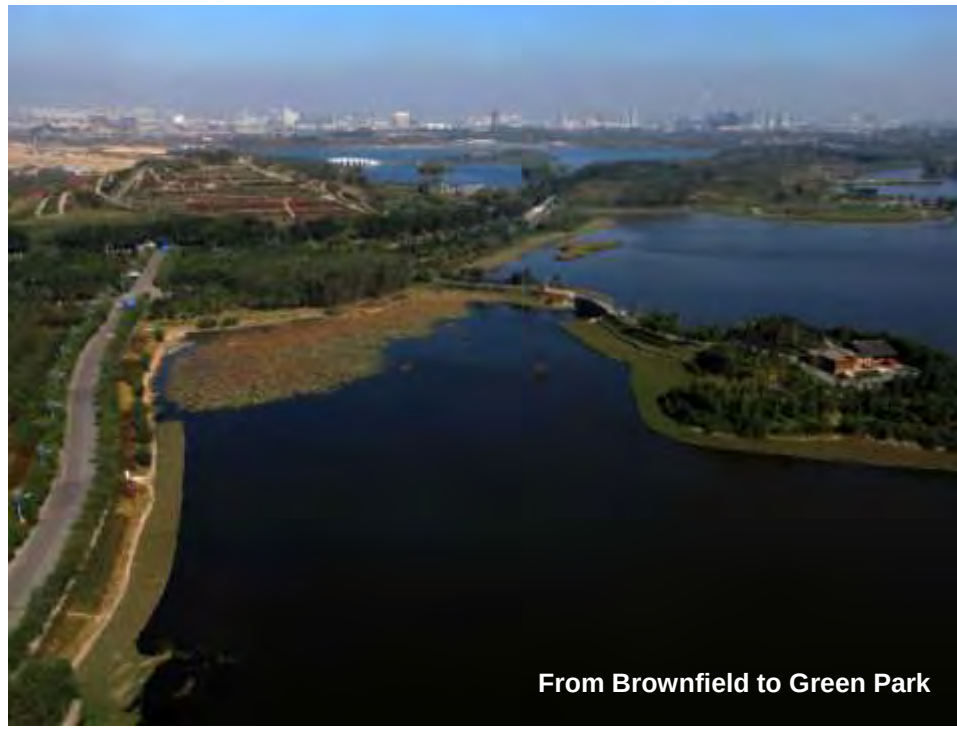
2 International Awards

Second Prize, Torsanlorenzo International Prize in Section A - Landscape Design in Transformation of the Territory – April 2009

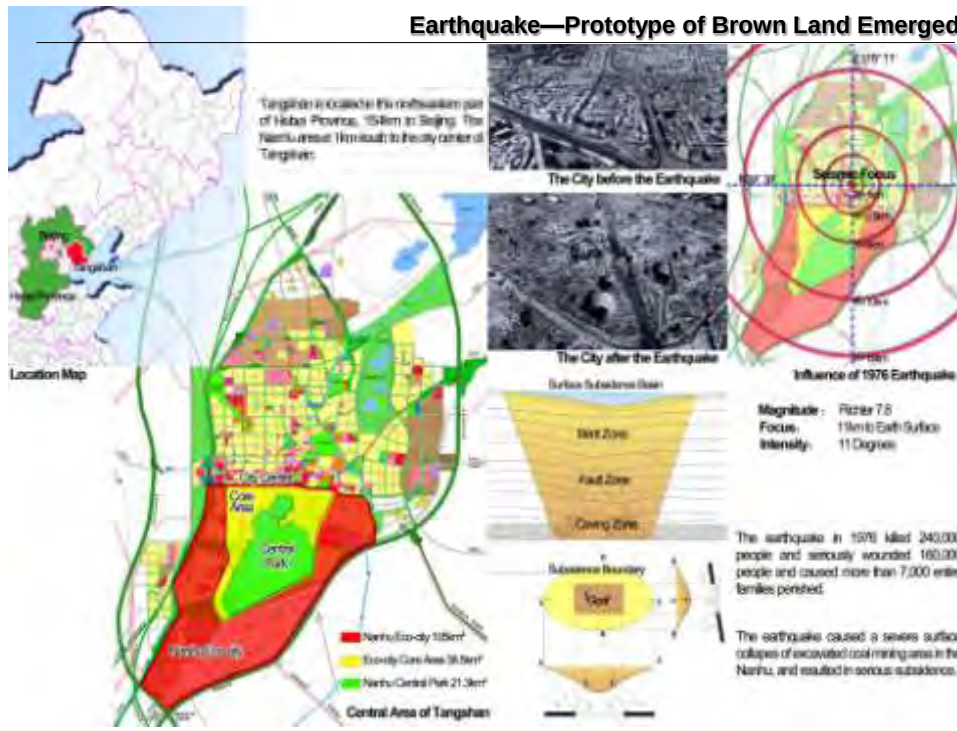
President's Award, the 8th International Federation of Landscape Architects of Asia – Pacific Regional Congress Award (IFLA-APR) in Landscape Design Category – January 2011

Case Study 3:

Tangshan Nanhu Eco-city Planning and Design, China



Earthquake—Prototype of Brown Land Emerged



Four Factors Formed a Brown Field

The Tangshan earthquake affected a 217 km^2 area, and damaged 97.25% of residential buildings.

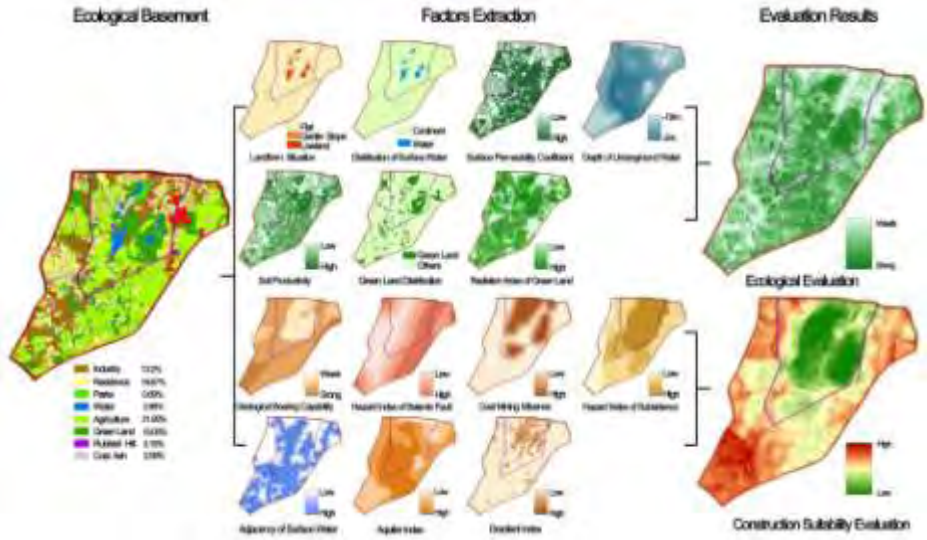
Official Notice:
Nanhu Area:
Geological Disaster Potential Area
Disaster Type:
Coal Mining Subsidence

The People's Government of Tangshan Lunan District
June, 2006

Before reconstruction, industrial waste, mainly including coal ash and gangue, was directly discharged into the coal mining subsidence area.

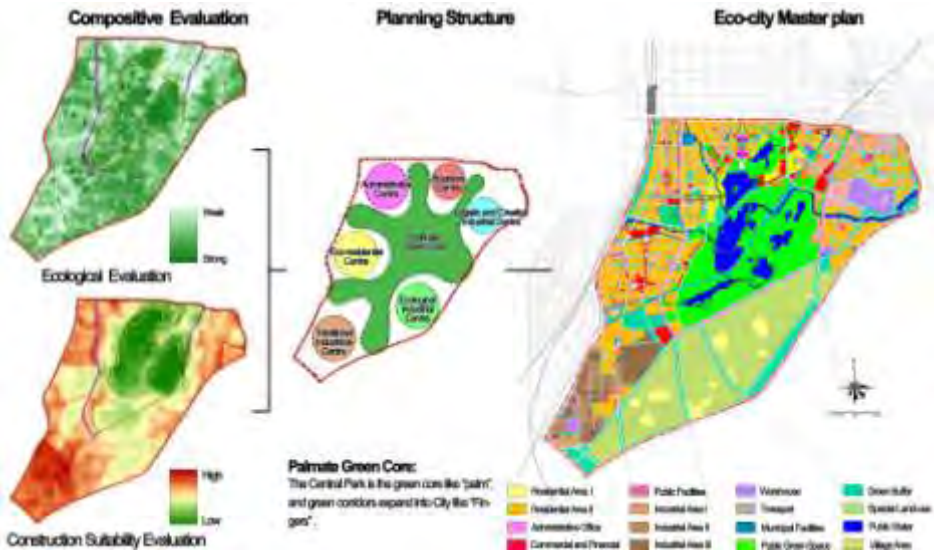
Before reconstruction, 450 m^3 of trash formed a hill 50m high.

Overlay Analysis



GIS technology was used to comprehensively survey the planning area land-use and land cover situation, extracting relative eco-factors (such as geological capability, subsidence hazardous, seismic risks) used to determine a basis for measuring urban spatial change in the planning area, and to determine a model for measuring factors that cause change.

Palmate Green Core Concept



According to ecological evaluation and construction suitability evaluation, the conclusion is as follow:

1. **The central park area is not suitable for urban construction, and the planning should focus on ecological restoration as well as park construction.**
2. **The construction land should connect with the central park via green corridors, assisted by landscaping strategies, eco-technology measures and an urban security system.**

Connecting with Old City

Traffic Analysis | **Walking and Bicycle Transport** | **Water System Analysis**

Urban Traffic: Extending old city ring roads southward, and including the Eco-city traffic into the urban ring road system.

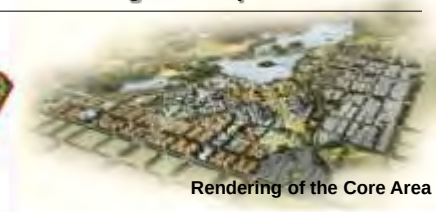
Walking and Bicycle Transport: Constructing slow traffic system integrated with urban green land system, to guarantee accessibility of the palmate green core.

Water System Cycling:

1. The Nanhu realized connection of urban water system;
2. Source of water: the daily 80,000 tons of reclaimed water discharged from the sewage treatment plant flow into the Nanhu after purification; the 20,000 tons of underground water transported from coal mining site everyday will also flow into the Nanhu.

Design Concept -- Green Core

Master Plan of Nanhu Eco-city Core Area



Rendering of the Core Area

Rendering of the Central Park Phase I

Night Rendering of the Central Park Phase I

Satellite Pictures

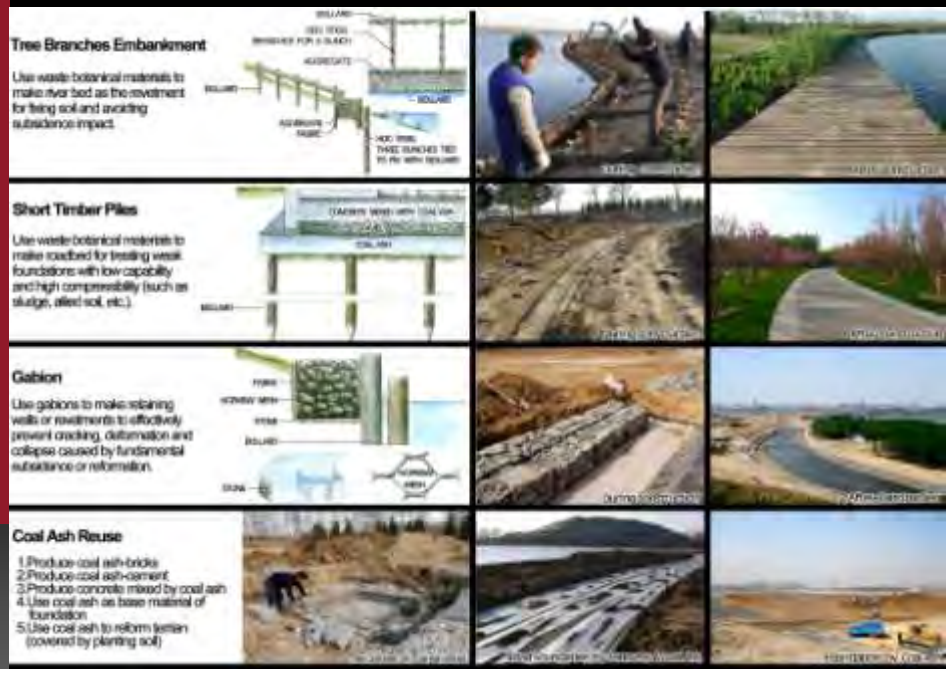
Before Construction, 2006

After Construction of Central Park Phase I , 2009

Central Park in Core Area - 5.91 sq km

Central Park planning and design will continue the region Shan-Shui characteristic, and act as the inner city natural ecology, and history ,culture and modern civilization integration. The park main idea is to preserve, restore and rebuild the existing landscape elements (hills, water, wetlands), create a beautiful environment, and provide a friendly close to nature space.

Waste Material Reuse and Lowcost Ecological Techniques



Rubbish Hill Reformation


Before Reformation


After Reformation


1


2


3


4

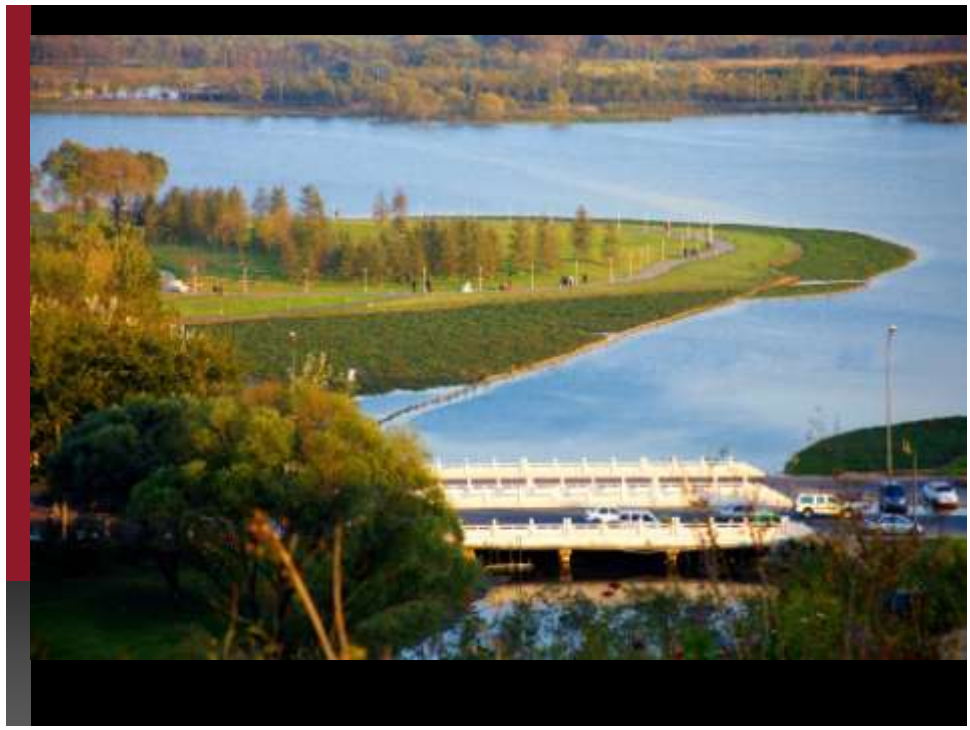

5

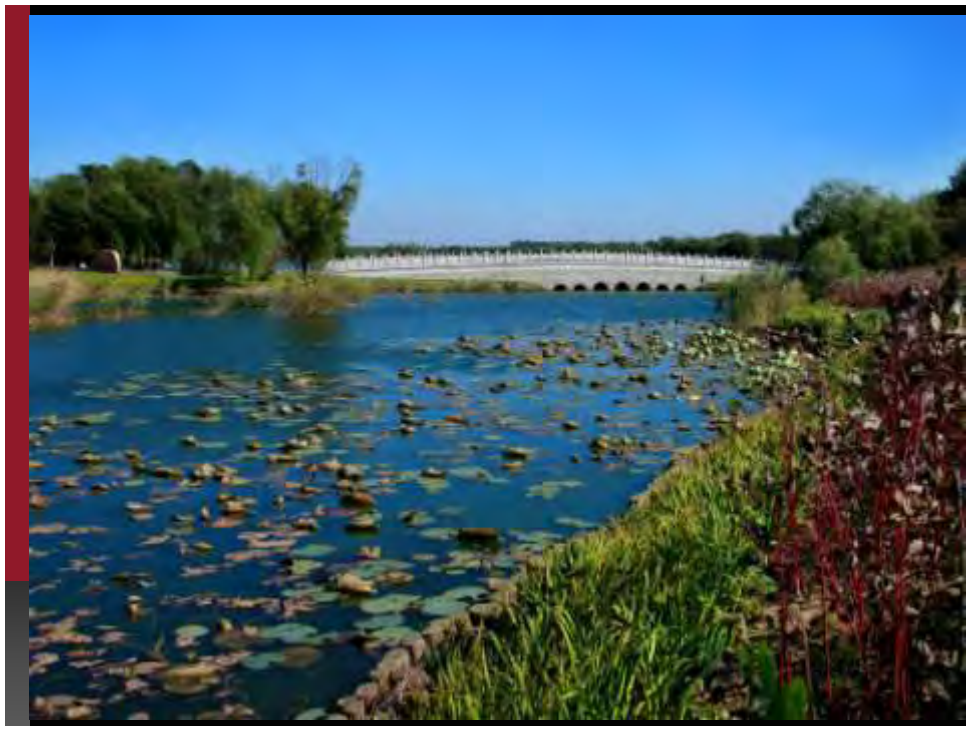

6

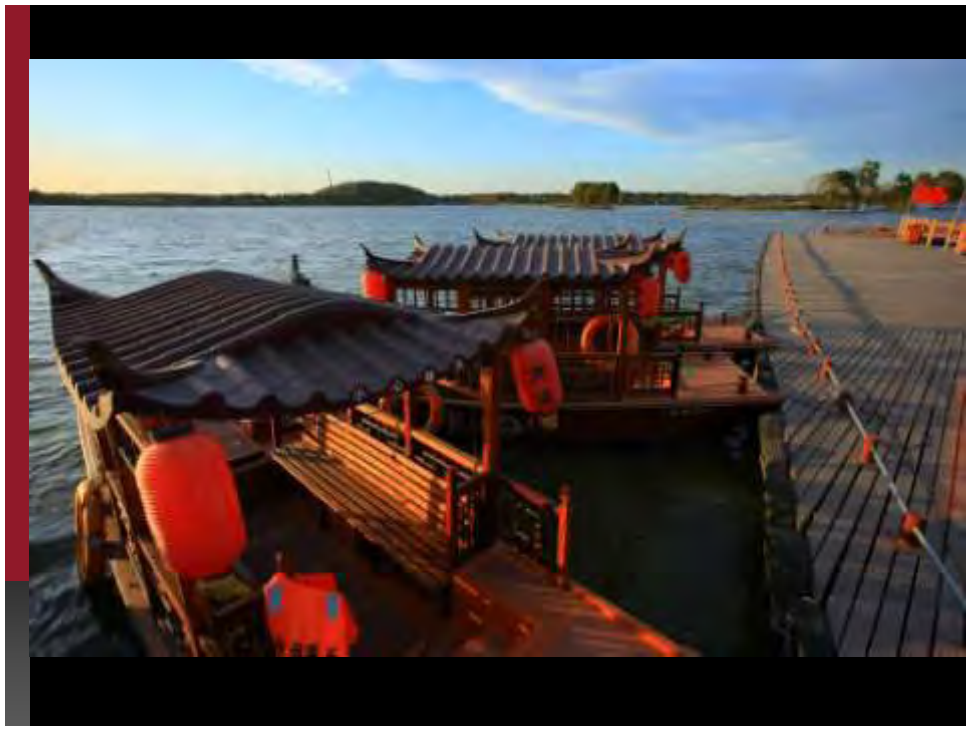
Rubbish Hill Reformation Measures:

1. Collecting all the rubbish and reform it into a hill.
2. Covering the rubbish with LDPE-Low-Density Polyethylene
3. Covering planting soil on the surface of LDPE
4. Layered compacting the planting soil.
5. Constructing retaining wall by sacks filled with seeds and nutrients.
6. Installing waste gas collection system

2009. 05. 01 Central Park open to the public







Our Team on Site




3 International Awards & 1 National Award

•International Award, British Association of Landscape Industries (BALI) National Landscape Awards 2011 – October 2011

•First-Prize, the 8th Torsanlorenzo International Prize in Section A - Landscape Design in Transformation of the Territory – May 2011

•Award of Excellence, in Landscape Planning Category, 2011 International Federation of Landscape Architects of Asia–Pacific (IFLA-APR) Congress —— January 2011




•Third Prize, Hebei Province 2008 Annual Excellent Urban and Rural Planning Achivements – July 2009

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Proposed Amendments to the

Transportation Planning Rule & Oregon Highway Plan

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Timeline

- Sept 2010 - LCDC hears TPR concerns
- Jan 2011 - OTC and LCDC appoint joint committee
- April 2011 - Joint subcommittee issues recommendations
- June 2011 - SB 795 requires TPR & OHP changes by Jan 1
- Summer 2011 - TPR Rules Advisory Committee and OHP Technical Advisory draft revisions for public review
- Fall 2011 – Parallel OTC and LCDC review

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Concerns

- Barrier to Economic Development
- Obstacle to mixed-use, compact development in urban areas
- Does not address non-auto modes

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Proposed TPR Amendments

Existing Provision	*Proposed Change*
Zone changes triggering the Section 0060 concurrency provisions	**Zone changes** consistent with adopted plans **exempted** from 0060
Full mitigation could be required for compliance with Section 0060	**Partial-mitigation allowed** when adding industrial or non-retail jobs
Up-zoning in 2040 centers severely limited by existing congestion	Process set forth for **exempting centers** from Section 0060 trigger

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Oregon Highway Plan Revisions

Existing Provisions	*Proposed Change*
Mobility policy set forth as standards	Mobility policy set forth as "**targets**"
Single level-of-service congestion policy based on traditional volume-to-capacity ratio	New provisions allow **alternative performance measures** and corridor-based performance
Small increases in projected traffic triggers conflict with highway plan	Much **more latitude** for ODOT to **evaluate impacts** in proportion to existing conditions, defining "no further degradation"

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Consensus Comments (so far)

Planning Rule (TPR)	*Highway Plan (OHP)*
Strongly support **exempting zone changes** consistent with comprehensive plans from 0060	Strongly support **alternative mobility policy** flexibility
Support allowing for **"multi-modal mixed-use areas"** (MMAs)	Strongly support the **shift** from mobility **"standards" to "targets"**.
Support **higher standard** for establishing MMAs in **interchange areas**	Support **more latitude** for ODOT in evaluating impacts
	Ensure OHP changes are **reflected** in **implementing documents**
	Reconcile Special Transportation Areas (STAs) with MMAs

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Next Steps

Oregon Transportation Commission

Hearing on OHP Amendments
November 16 (Silverton)

Land Conservation & Development Commission

Hearing on TPR Amendments & Adoption
December 8-9 (The Dalles)



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www.oregonmetro.gov/climatescenarios

Climate Smart Communities Scenarios Project

Metro Policy Advisory Committee Briefing
November 9, 2011

Kim Ellis, Project Manager

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1

Oregon Greenhouse Gas Goals

- Stop emissions growth by 2010
- Reduce emissions by 10% by 2020
- Reduce emissions by 75% by 2050

Adopted by the 2007 Legislature, the goals are for reductions below 1990 levels for all GHG emissions.

Metro

2

Scenarios timeline

We are here.

Metro

3

2035 GHG Targets for Oregon MPOs

per capita light vehicle GHG emissions reduction below 2005 levels

Metropolitan Area	Adopted Target
Portland Metro**	20%
Eugene-Springfield*	20%
Salem-Keizer	17%
Rogue Valley	19%
Bend	18%
Corvallis	21%

*Required Scenario Planning
** Required Scenario Planning & Adoption

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4

Phase 1 purpose

- How far do current plans and policies get us?
- What is the relative GHG emissions reduction potential of different policies?
- What are our choices?

Not to choose a preferred alternative

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5

2040: Six desired outcomes

Vibrant communities

Equity

Economic prosperity

Transportation choices

Climate leadership

Clean air & water

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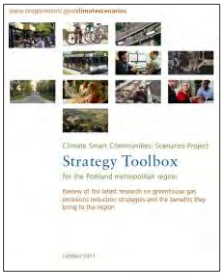
6

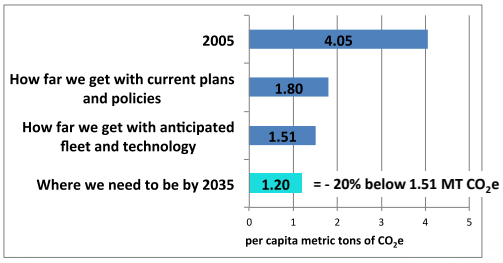
Study approach

- Staff advised by a 16-member work group
- Literature review led to Strategy Toolbox
- Scenarios developed to quantify effects



Metro 7

Region's GHG emissions reduction target in per capita terms



Metro 8

Policy levers we examined

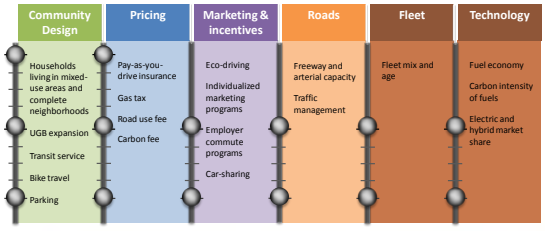
Testing levels of ambition

Note: *The state provided assumptions*

Metro 9

Packages of policies and actions

Testing bundles of "plausible" strategies



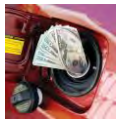
Metro 10

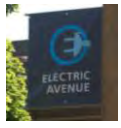
Level 1 assumptions = current plans and policies…

- Adopted 2035 Regional Transportation Plan
  - Transit service level
  - Freeway widening and management
  - Arterial connectivity and widening
  - 2% regional bike mode share
- Locally adopted land use plans
- Urban reserves anticipated to be developed by 2035

Metro 11

…Level 1 assumptions = current plans and policies

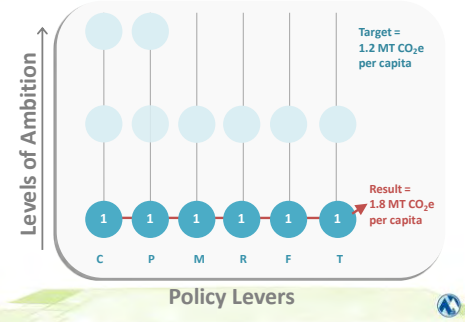




- Gas tax and parking fees at current levels
- 9% of households participate in individualized marketing
- 20% of workforce participates in employer-based commute programs
- Fleet mix same as today
- Achieve federal CAFÉ standard of 50 MPG
- Electric vehicle share grows to 4%

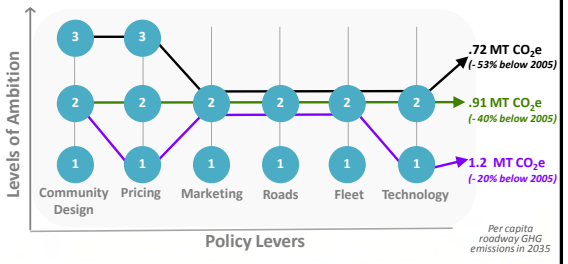
Metro 12

Current plans and policies on the right track, but don't meet target



Metro
13

Significant reductions possible from many combinations



Metro
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Preliminary findings….

1. Current local and regional plans and policies are aspirational and provide a strong foundation
   - Continued investment, commitment and bold action are needed to achieve existing aspirations
2. Targets are achievable but will take more effort and action

Metro
15

…Preliminary findings



3. The best approach is a mix of policies and strategies
   - No single strategy meets the target; there is no "silver bullet"
4. Partnerships and collaboration are key
   - Strategies have a mix of "sponsors" and funding sources
   - Action is needed at the local, regional, state and federal levels

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16

Outcomes to be reported in Phase 1



- Greenhouse gas emissions
- Travel behavior
- Households in mixed-use areas and complete neighborhoods
- Urban growth boundary expansion

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Additional outcomes for Phase 2



Equity
- Access to affordable housing and travel options
- Access to opportunity
- Public health

Economy
- Access to industry and jobs
- Freight travel time costs
- Economic development opportunities

Environment
- Air quality
- Access to parks and natural areas

Costs and savings
- Implementation
- Household and business

Metro
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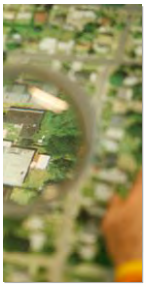
Moving Forward to Phase 2

- Apply Phase 1 findings to identify combinations to study further
- Expand evaluation framework
- Build on local aspirations and planning efforts
- Bring in statewide transportation strategy



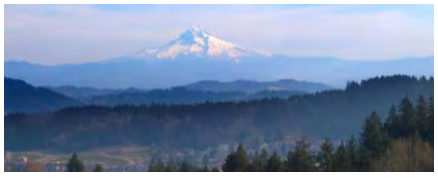
Metro 19

Next steps

Oct. – Nov.	Work Group, TPAC & MTAC review findings and frame choices
Nov. – Dec.	Report back to JPACT and MPAC
Jan. 2012	Request Council, JPACT and MPAC acceptance of findings
	ODOT and DLCD submit progress report to Legislature
Early 2012	Share findings with stakeholders
	Request Council, JPACT and MPAC direction on Phase 2 work plan

20

Questions and Discussion



What additional information do you need to prepare for the December 14 and January 11 MPAC discussions ?

Metro 21

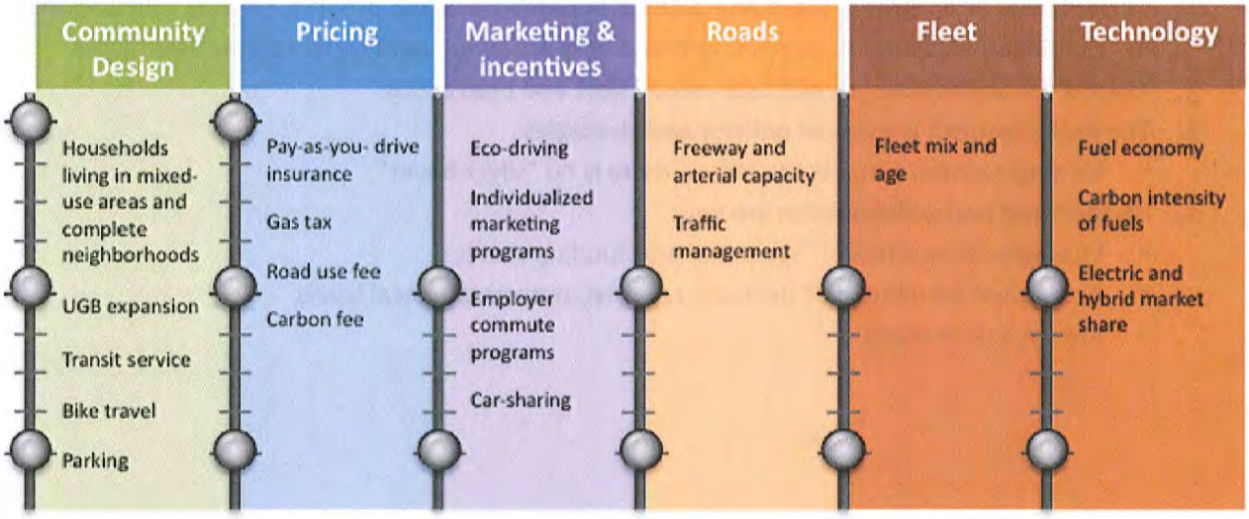
November 3, 2011

Climate Smart Communities Scenarios Project—High Level Inputs

Metropolitan GreenSTEP Modeling: Six policy levers, three levels tested

Note: *The state provided assumptions*

Metropolitan GreenSTEP Modeling: Six policy levers and the strategies within each

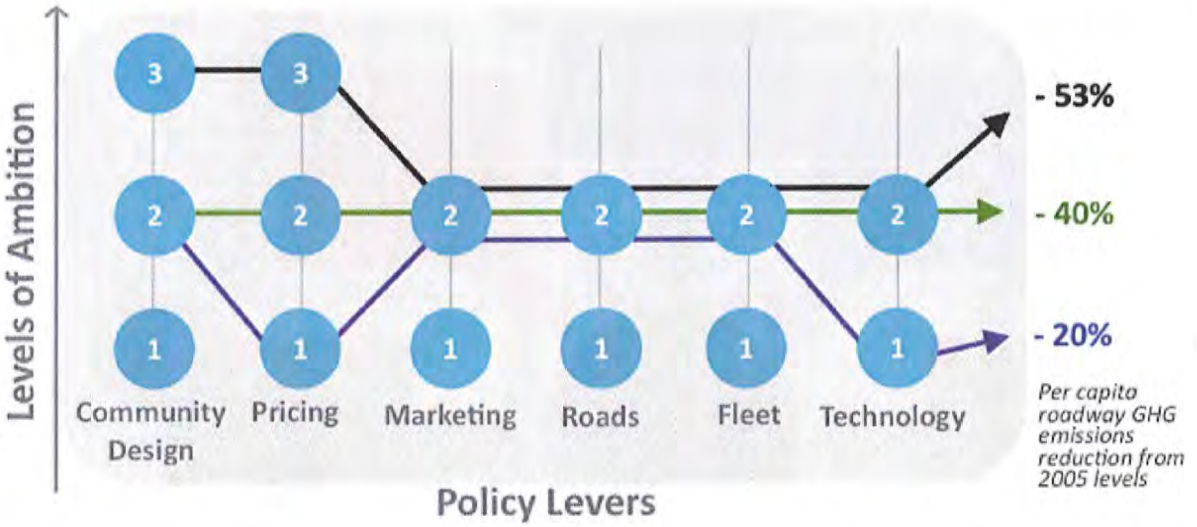


November 3, 2011

Climate Smart Communities Scenarios Project
High Level Results

Phase 1 Preliminary results—93 scenarios meet or exceed target

Range of potential scenario options that meet or exceed 20% GHG reduction target



Key findings to date

1. **Current local and regional plans and policies are ambitious and provide a strong foundation**
   - Continued investment, commitment and bold action are needed to existing aspirations
2. **Targets are achievable but will take more effort and bold action**
3. **The best approach is a mix of policies and strategies**
   - No single strategy meets the target; there is no "silver bullet"
4. **Partnerships and collaboration are key**
   - Strategies have a mix of "sponsors" and funding sources
   - Actions will be needed at the local, regional, state and federal levels
   - We can't do it alone