







What is Green Infrastructure?





Grow Zone

Community Garden

Native vegetation

Rain garden

Spinister and

ing sheding

Economic Benefits Residential

 3-14% increase in residential property values when located near parks, wetlands, and trees





Economic Benefits Commercial

- Consumer spending increased & returning more frequently to stores with tree canopy
- Increased rental rates (7% higher) with quality landscaping



Green Infrastructure Vision Chapters

- Quantity
- Quality
- Accessibility
- Connectivity
- Air, Water, Transportation
- Vacant Land

- Public Interest
- Sustainability
- Visioning the Future
- Implementing the Vision







Green Infrastructure Vision for Southeast Michigan

- Benchmark what we have
- Vision where we want to go
- Regional policies how to get there

Southeast Michigan Land Cover

| Leaf On | Percentage |
|------------|------------|
| Impervious | 14% |
| Tree | 33% |
| Open | 49% |
| Bare | 1% |
| Water | 3% |
| Total | 100% |



Percent Tree Canopy



Impervious Cover Benchmark

- 35% Roads
- 25% Buildings
- 40% Other
> Parking Lots
> Driveways

05.05.2009

Chicago, IL

Transportation Network



- Major Roadways
 - Arterial; Collector
 - Local, county, state
- 87 square miles impervious cover



Benchmarking Roadway Land Cover



City of Farmington Hills



Benchmarking What We Have

- Quantity: Tree Canopy, Parks
- Quality: Wetlands
- Accessibility: parks, large parks, trails, water
- Connectivity











Green Infrastructure Accessibility

- Access to public parks,
- Access to public parks over 200 acres,
- Access as part of attracting and retaining young professionals,
- Using green infrastructure to provide access to waterways,
- Access to trails
- Universal design



Accessibility to Large Parks





 Subwatershed Planning Areas

- Level of Impervious Cover
- 10% and higher
- Quantify areas of opportunity
 - Roadways
 - Institutional
 - Parking Lots
 - Riparian Corridors

Opportunities for Constructed Green Infrastructure

Institutional Properties

 Over 25,000 acres of lawn

 Parking Lots

 Over 50,000 acres





Opportunities for Constructed Green Infrastructure

Roadways

- 55,000 acres of major roads
- Almost 30,000 acres of open space in the right-of-way

Redirecting runoff to available right-of-way







Transportation GI Opportunities

- Redirecting runoff to available rightof-way
- Constructing curb bumpouts at intersections for traffic calming effect
- Developing linear streetscapes
- Utilize vacant property
- Road diets









Grand Rapids, MI

Visioning Where We Want to Go

Green Infrastructure Vision Task Force
Nine Visioning Sessions
Public Online Poll







Where Should Green Infrastructure be Located?

- Visioning Session
 1. Along rivers & lakes
 2. Major roadways
 3. Near parks
 4. Vacant Property
- Public Online Poll
 1. Major roadways
 2. Near parks
 3. Vacant property
 4. Along rivers & lakes

Green Infrastructure and Water Quality

 Protecting water quality number one benefit of green infrastructure

 Implement constructed green infrastructure







Visioning Where We Want to Go







Overall Regional Policies

- Manage the system as a network
- Focus additional public investment on connecting the system and meeting unmet recreation needs
- Protect, manage, restore high quality, unique natural areas
- Public accessibility to the green infrastructure network is paramount





Overall Regional Policies

- Use vacant property to connect, buffer, provide access, and solutions
- Educate and promote to elected officials and public
- Ensure sustainability through maintenance, fiscal sustainability, and partnerships





Overall Regional Policies

- Increasing tree canopy is a priority due to the numerous benefits
- Focus constructed green infrastructure on publicly-owned land and large impervious surfaces
- Roads can be used to link the network through green streets and trails





Implementing the Vision



Lansing, MI



Green Streets Grant EPA GLRI Funding





Oakland County, MI

Grant Outcomes

- 4 counties
- 160 acres of runoff
- 30 acres of constructed GI
- Bioretention; Tree planter box
- Native plant grow zones
- 27,000 pounds sediment reduction
- 50 pounds phosphorus reduction
- 20 MG runoff reduction
- Great Lakes Green Streets
 Guidebook



Source: Robert W. Domm





Great Lakes Green Streets Guidebook

- Why Green Streets
- Local & Regional Planning Considerations
- Technical Challenges
- Funding Challenges
- Types of GI Techniques
- 26 Case Studies Great Lakes Watershed
- <u>http://www.semcog.org/Stormwater.aspx</u>



Village of Pinckney, MI

Collaborative Watershed & Transportation Planning

- EPA Technical Assistance
- Establish Runoff Reduction Targets
- Quantify roadway contribution
- Identify opportunities
- MDOT & Long Range Planning



Buffalo, NY

Bell Creek Subwatershed



- 26,651 Acres
- 41% Impervious
 - 2,936 Bldgs
 - 8,098 Pavement
- 7,270 Acres Open Space
- 2,638 Ac Parking Lots
 - 2,113 Ac Inst Land
- 1,827 Ac Park/Rec

Tonquish Creek Subwatershed



- 15,959 Acres
- 42% Impervious
 - 1,793 Bldgs
 - 4,861 Pavement
- 4,519 Acres Open
 Space
 - 1,554 Ac Parking Lots
- 1,049 Ac Inst Land
- 901 Ac Park/Rec



Transportation Need Vs. Revenue

Competing Needs

- Transit
- Non-motorized
- Bridges
- Safety
- Congestion
- Pavement
- Stormwater

- Revenue Sources
 - Federal Funding
 - Property Taxes
 - Gas Tax







Transportation Revenue Shortfall





Collaborative Transportation Planning



- Prioritize roadway green infrastructure
- Collaborate with overlapping jurisdictions
- Create partnerships
- Identify where there is flexibility in requirements
- Consider alternative approaches & multiple outcomes



Next Steps

- General Assembly Approval 3/27
- Convene Parks and Recreation Providers
- SE MI Partners Meeting (3/18)
 - Target Setting
 - Priorities

SEMMON

• SEMCOG Universities



Thank You





