



Route 51 South Hills Parkway

Team Leader: Wayne Feiden, FAICP

Sustainable Development: Tommy Linstroth, LEED AP

Sustainable Transportation: Jason Schrieber, AICP

Design with Nature: Tom von Schrader, PE, LEED AP

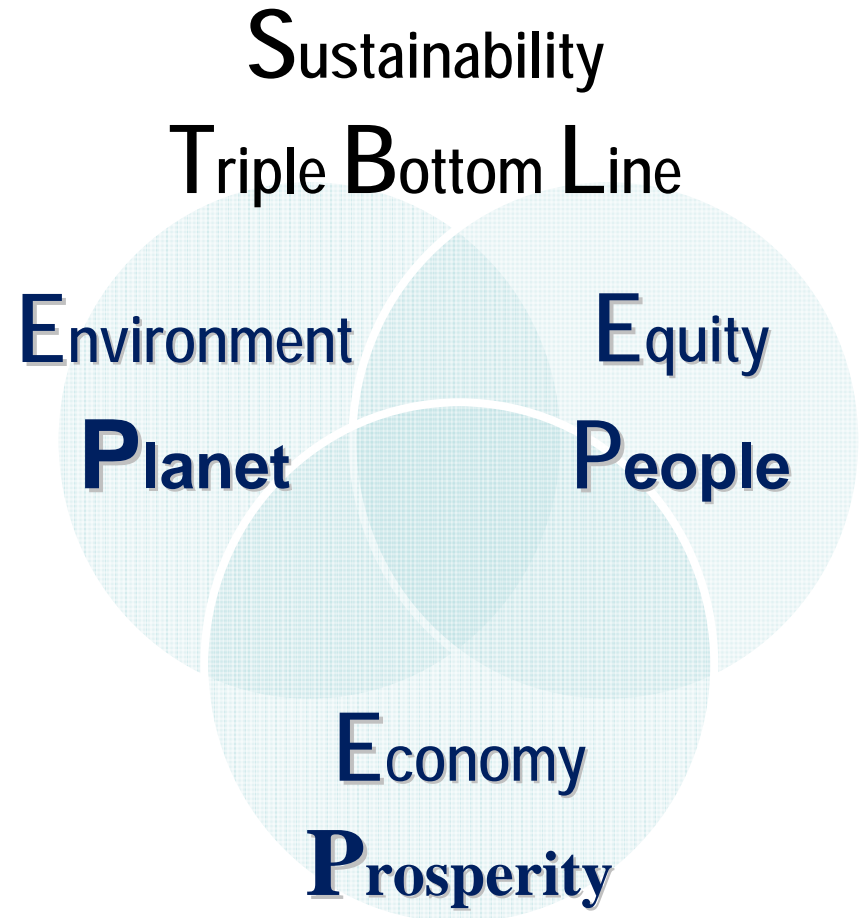
Design and Streetscapes: Mark Hinshaw, FAIA, FAICP

Land Use and Governance: Nathan A. West, AICP



Creating a Sustainable Corridor

1. Think Sustainability!



Creating a Sustainable Corridor

1. Think Sustainability!
2. **Re-purpose Route 51**
 - Fix the fire-hose leaks
 - Greenway- design with nature



Creating a Sustainable Corridor

1. Think Sustainability!
2. Re-purpose Route 51
3. **Connect to Transit**



Creating a Sustainable Corridor

1. Think Sustainability!
2. Re-purpose Route 51
3. Transit connections
4. **Focus development on nodes**
Not narrow strips

Highest and best use

- Economic
- Environmental
- Community

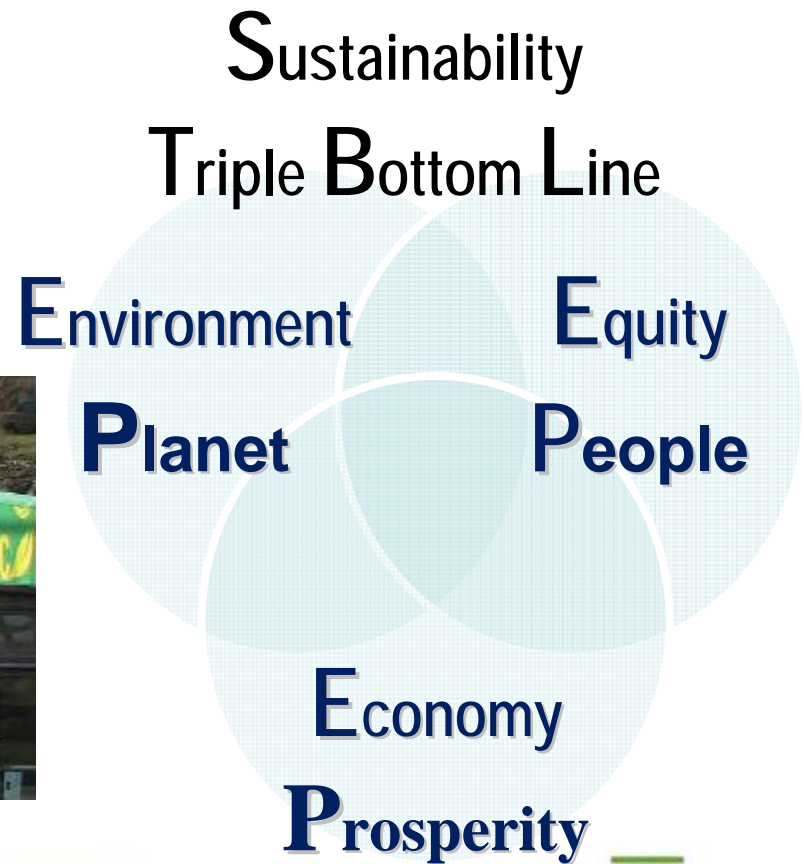


Creating a Sustainable Corridor

1. Think Sustainability!
2. Re-purpose Route 51
3. Transit connections
4. Focus development on nodes
5. **Live, play and work together**



- **Sustainable Development**
 - Tommy Linstroth, LEED AP





What Does That Mean? Using Design to Influence:

Renewable Energy

Runoff/Flooding

Transportation

Beauty

Accessibility

Sense of Place

Stormwater Management

Energy Efficiency

Quality of Life

Mass Transit

Jobs

Open Space

Restoring Nature

Water Use

Indoor Air Quality

Recycling

Vegetation



Benefits of Sustainable Development

Environmental benefits

- Reduce the impacts of natural resource consumption

Economic benefits

- Reduce operating costs and improve the bottom line

Health and safety benefits

- Enhance occupant comfort and health

Community benefits

- Minimize strain on local infrastructures and improve quality of life



Strip Shopping Center Opportunity







Route 51 South Hills Parkway AIA SDAT





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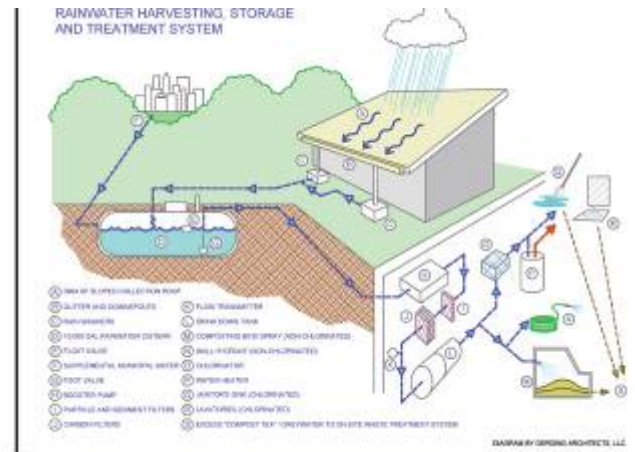


Route 51 South Hills Parkway AIA SDAT









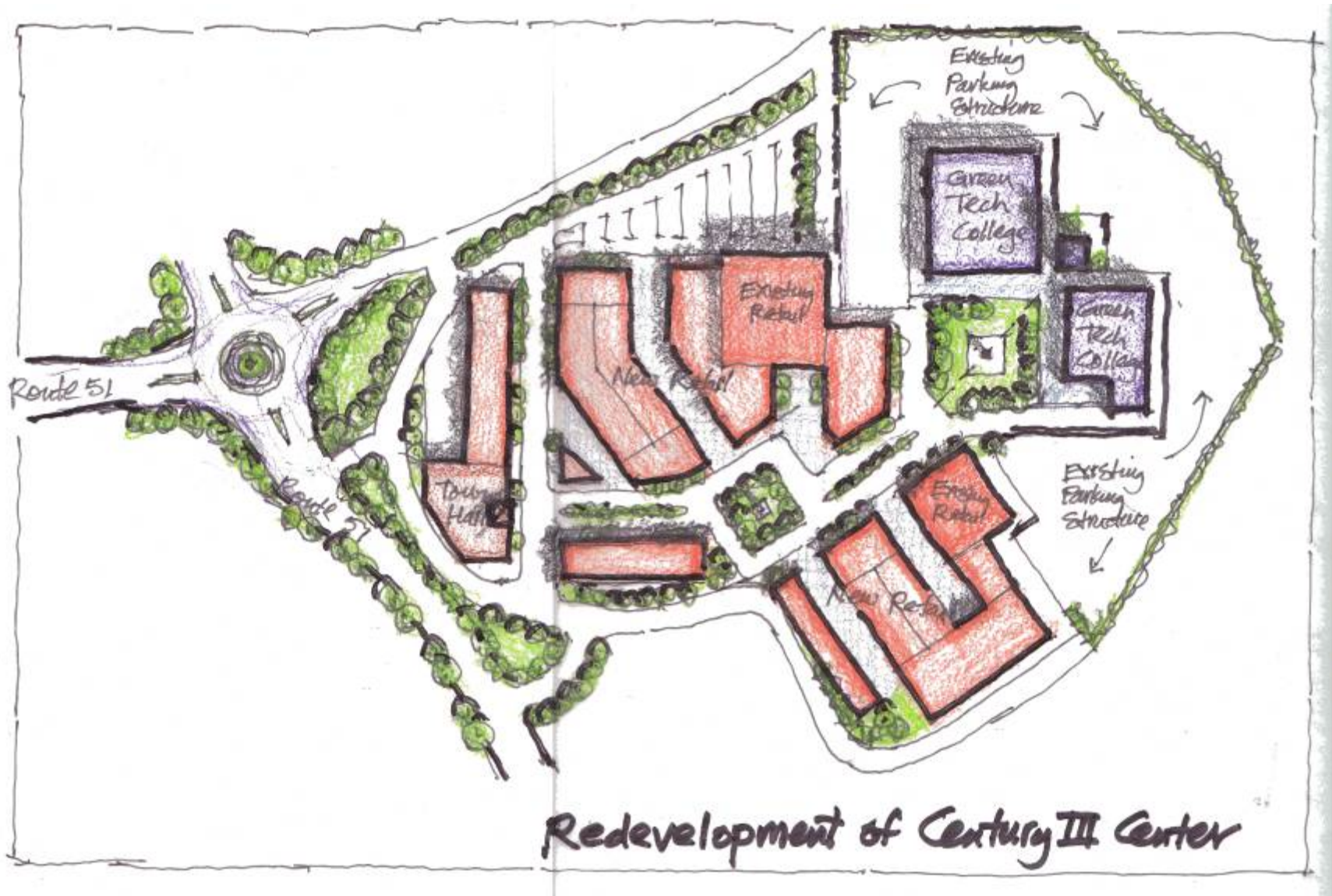
Route 51 South Hills Parkway AIA SDAT



Concept: Century III Mall



Revitalization Opportunity



Sustainable Development /S Economic Development



Measured Productivity

INCREASED PRODUCTIVITY



HOSPITALS

2 1/2
day earlier
discharge

SCHOOLS

20%
better test
performance

RETAIL

increase
in sales
per sq foot

FACTORIES

increased
production

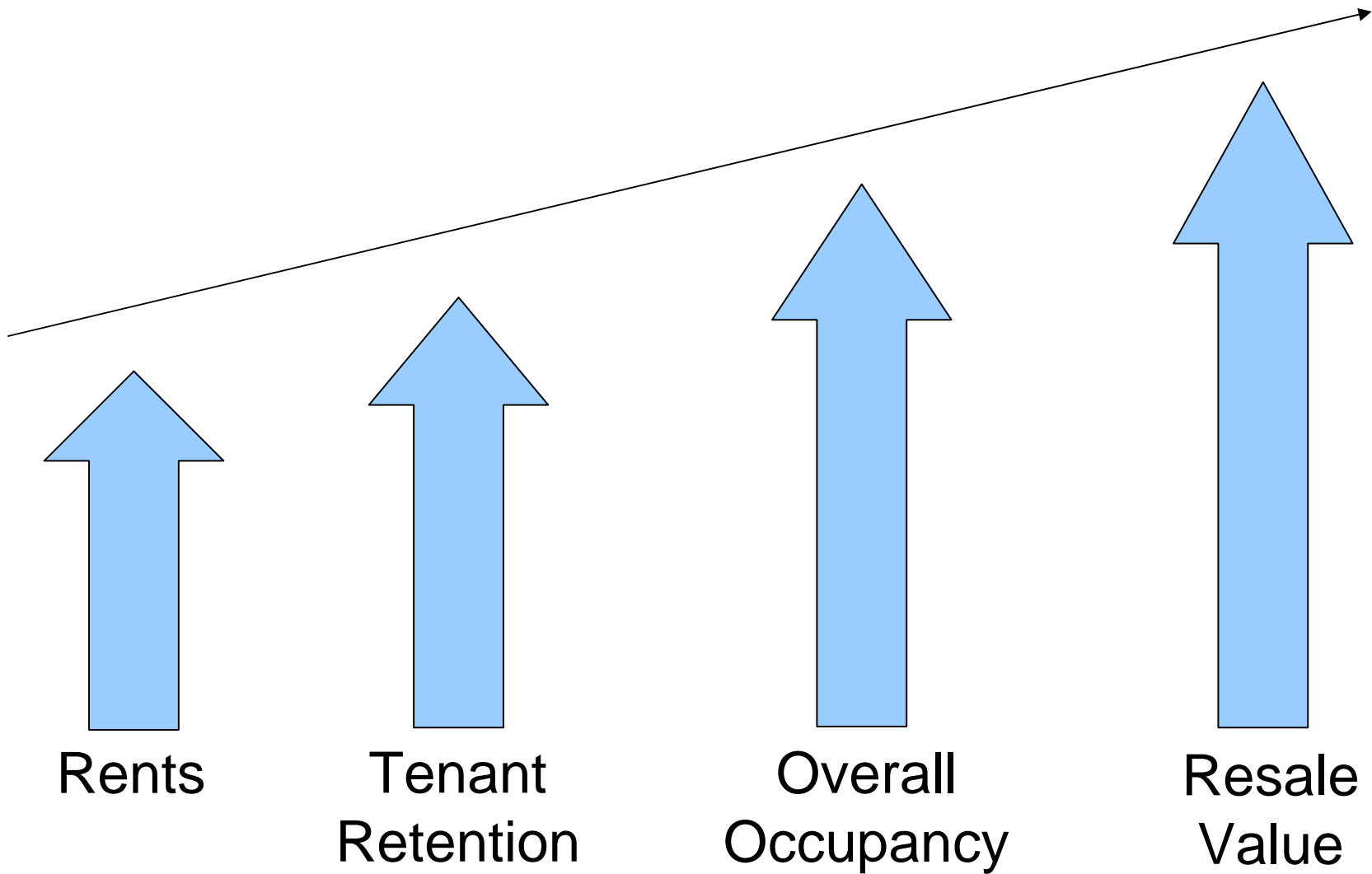
OFFICES

2 - 18%
productivity
Increase

Source: USGBC CEO Roundtable, Los Angeles, May 2006



Increased Value



A Common Theme - Sustainable Planning, Infrastructure and Buildings



+



+



= Sustainable Communities



- **Sustainable Transportation**

- Jason Schrieber, AICP



Sustainability

Triple Bottom Line

Environment

Equity

Planet

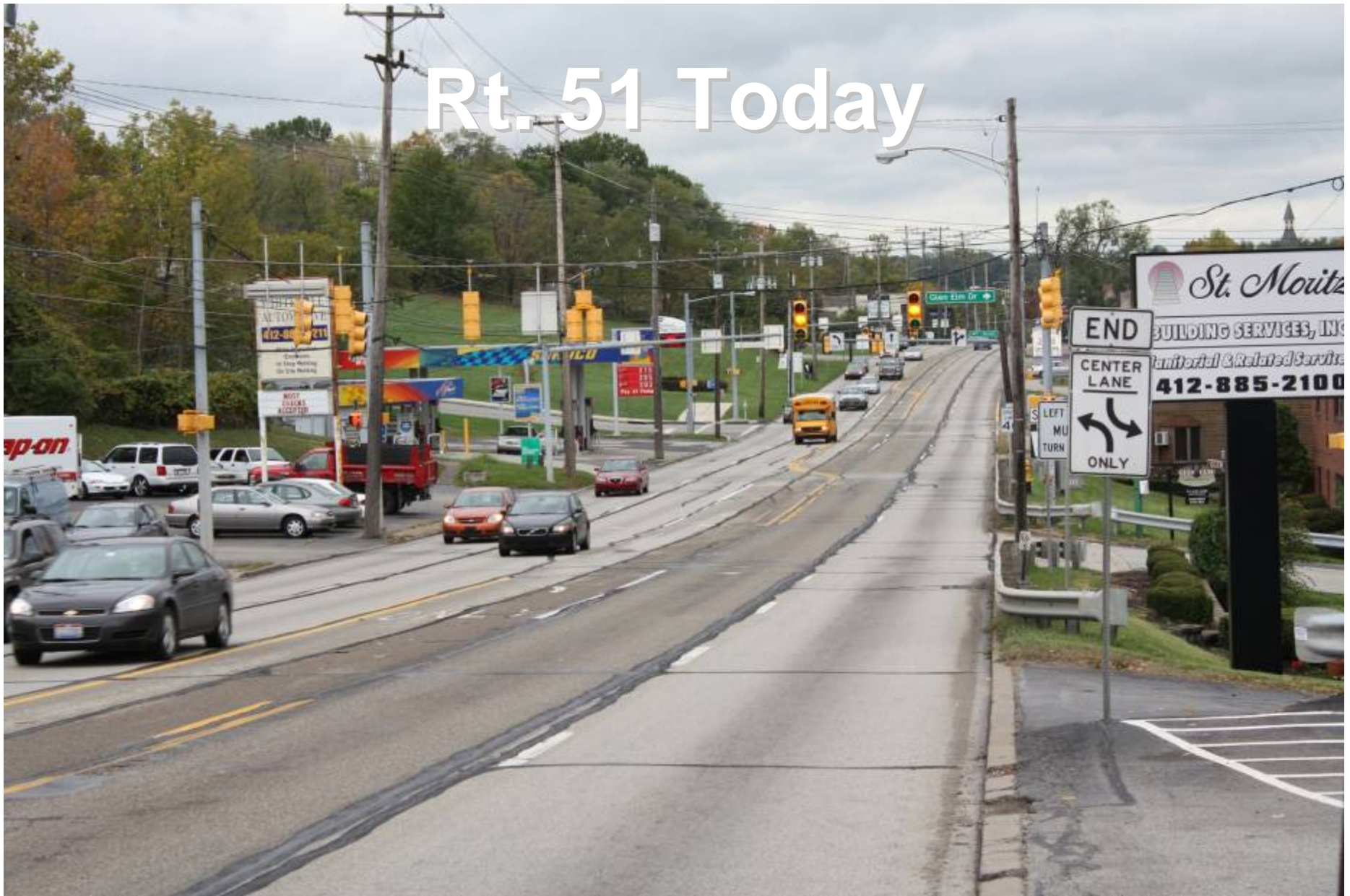
People

Economy

Prosperity



Rt. 51 Today



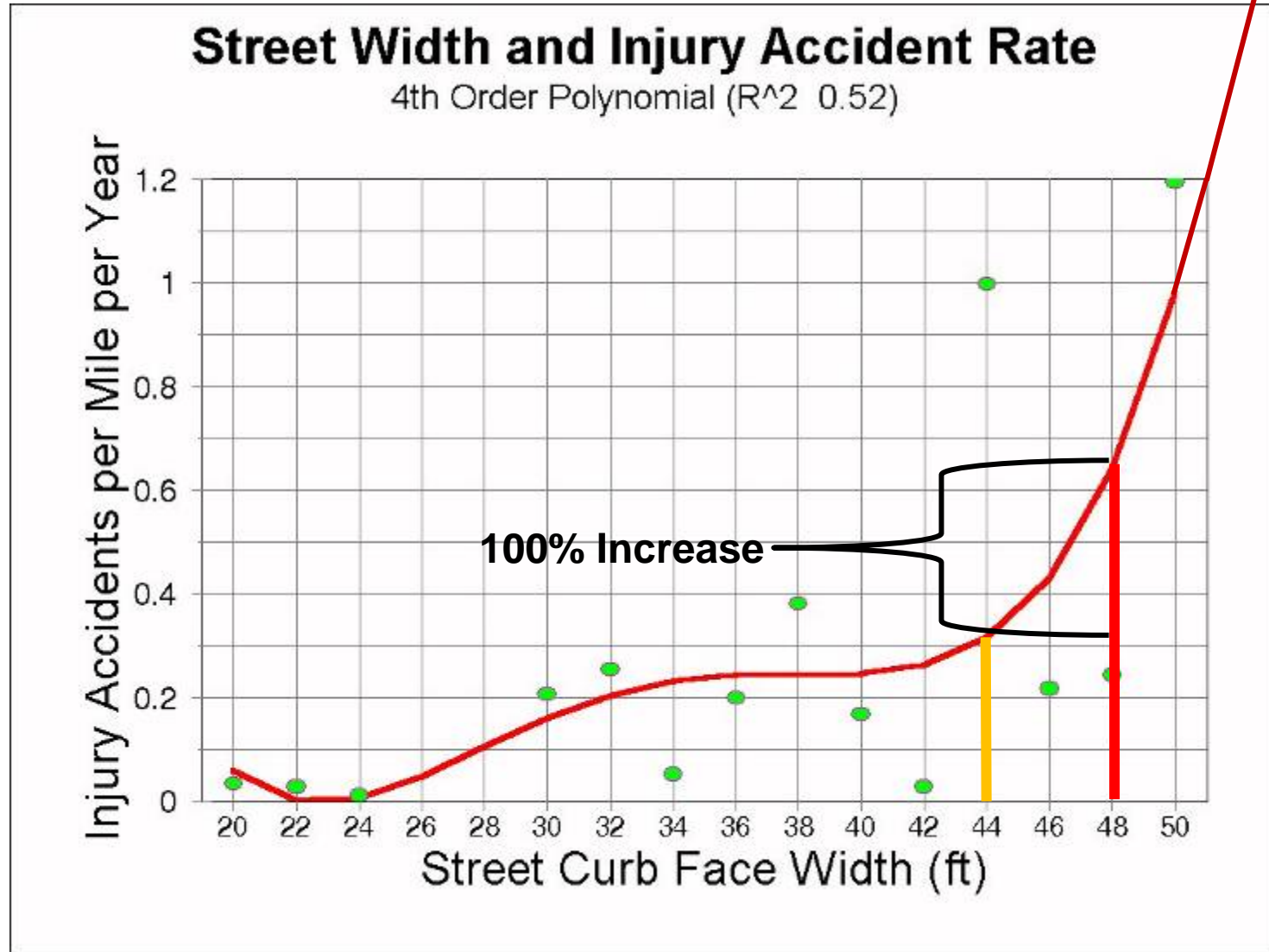




...the Rt. 51 of Tomorrow?



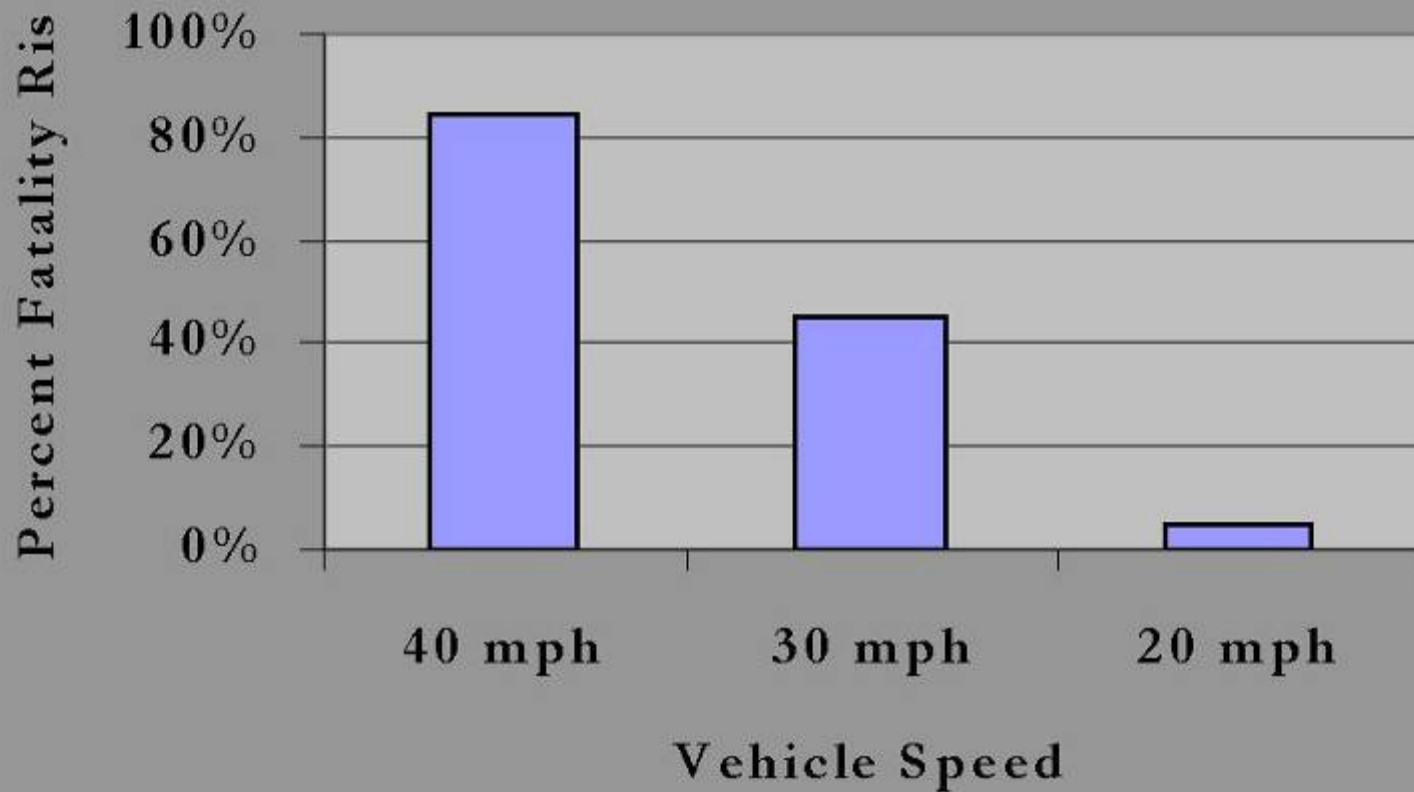
Wide Streets Are Less Safe



Street widths and injury accident rate, graphic by Peter Swift



Risk of Pedestrian Fatality



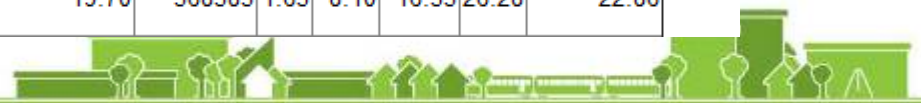
Leaf, W. and Preusser, D. *Literature Review on Vehicle Travel Speeds and Pedestrian Injuries Among Selected Racial/Ethnic Groups*, NHTSA (USA), 1999.



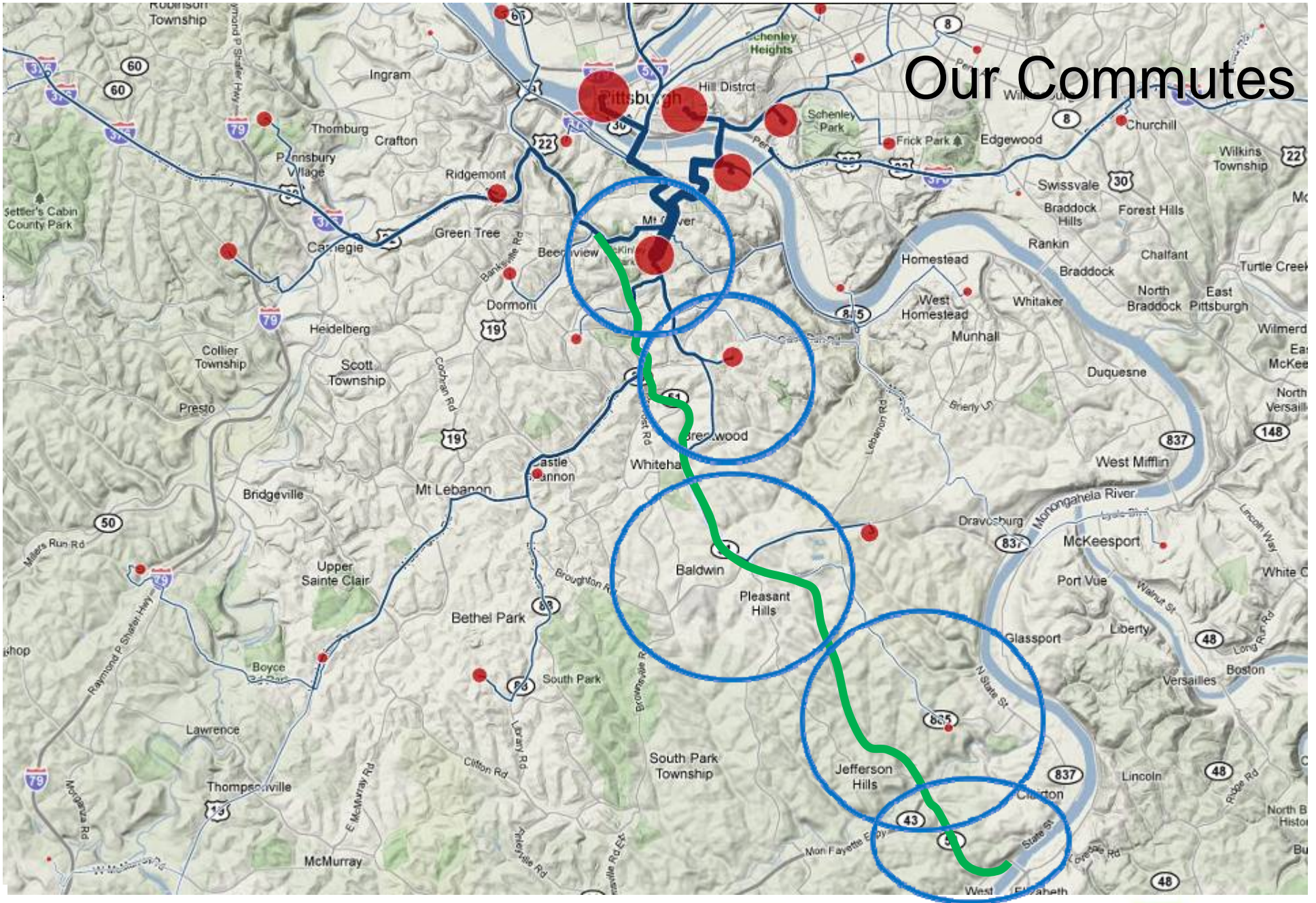
How do we use Rt. 51 Today?



Rank	Place	2000 Census						1990 Census					
		Population	% of Commuters Who				% Households w/o a car	Population	% of Commuters Who				% Households w/o a car
			Bike	Walk	Use Public Transit	Don't Drive To Work			Bike	Walk	Use Public Transit	Don't Drive To Work	
1	New York city, New York	8008278	0.48	10.72	54.35	65.55	55.70	7322564	0.31	10.95	54.77	66.03	55.87
2	Washington city, District of Columbia	572059	1.21	12.27	34.47	47.95	36.93	606900	0.78	12.18	37.73	50.69	37.41
3	Boston city, Massachusetts	589141	0.99	13.36	33.07	47.42	34.91	574283	0.89	14.28	32.25	47.42	38.32
4	San Francisco city, California	776733	2.08	9.82	32.64	44.54	28.56	723959	0.99	10.23	34.84	46.06	30.70
5	Newark city, New Jersey	273546	0.22	8.03	26.81	35.06	44.17	275221	0.23	8.42	24.83	33.48	44.34
6	Chicago city, Illinois	2895964	0.51	5.80	26.71	33.02	28.85	2783726	0.28	6.55	30.22	37.05	34.35
7	Philadelphia city, Pennsylvania	1517550	0.87	9.22	25.92	36.76	35.73	1585577	0.57	10.56	29.21	40.35	38.10
8	Pittsburgh city, Pennsylvania	334563	0.45	10.01	20.98	32.18	29.44	369879	0.42	12.85	22.59	35.88	34.83
9	Baltimore city, Maryland	651154	0.34	7.28	19.94	27.56	35.89	736014	0.25	7.57	22.40	30.22	38.35
10	Seattle city, Washington	563375	1.97	7.72	18.44	28.13	16.32	516259	1.55	7.53	16.51	25.59	16.74
11	Oakland city, California	399477	1.27	3.89	18.18	23.34	19.62	372242	1.14	5.05	18.56	24.75	23.30
12	Atlanta city, Georgia	416629	0.33	3.64	15.61	19.58	23.58	394017	0.29	3.84	20.44	24.57	28.56
13	Minneapolis city, Minnesota	382452	1.96	6.85	15.07	23.88	19.70	368383	1.65	8.10	16.53	26.28	22.86



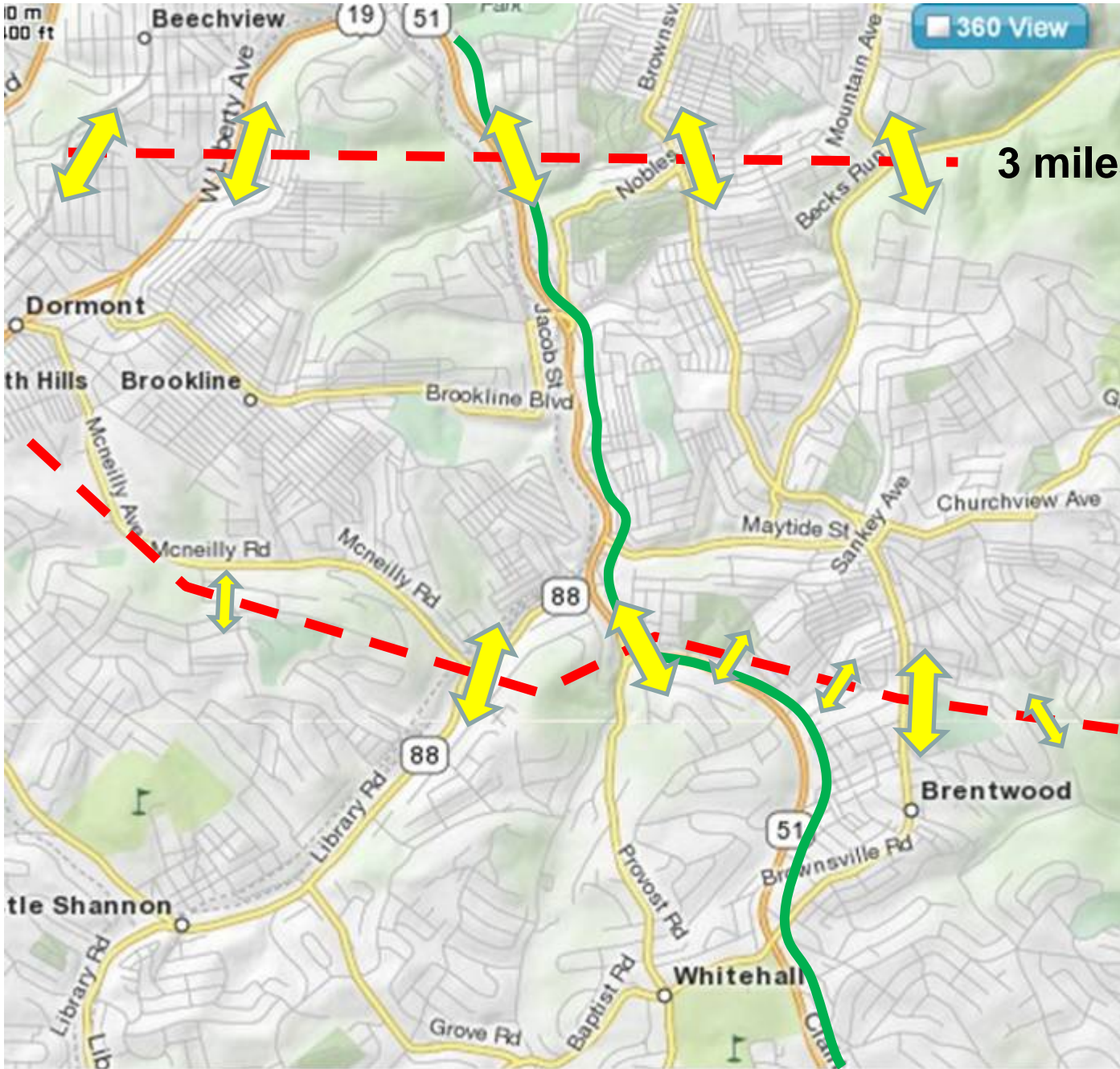
Our Commutes



Route 51 South Hills Parkway AIA SDAT



Connectivity



3 miles

4+ miles

1 mile

Route 51 South Hills Parkway AIA SDAT

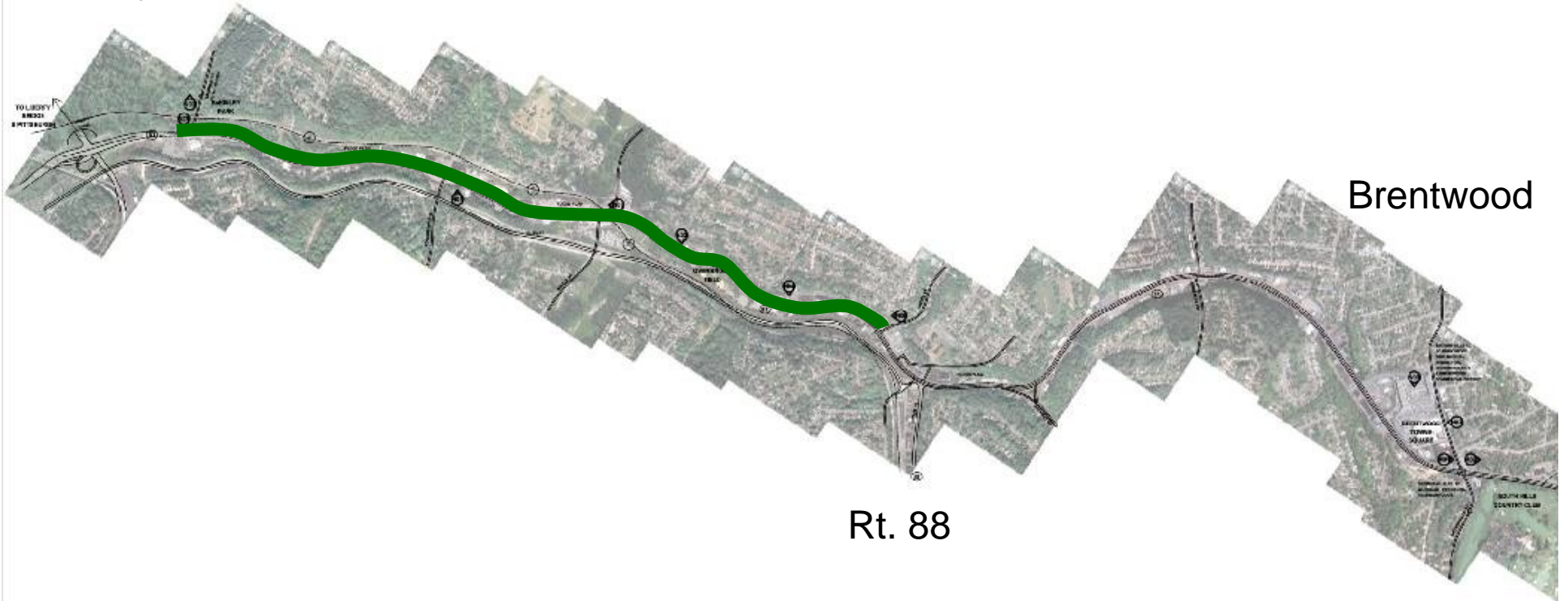


A Transportation Toolbox for Rt. 51

- Greenway: a Multi-Use Path
- Congestion Relief: Access Management
- Efficient Intersections: Roundabouts
- Pedestrian Protection: Crossing Islands

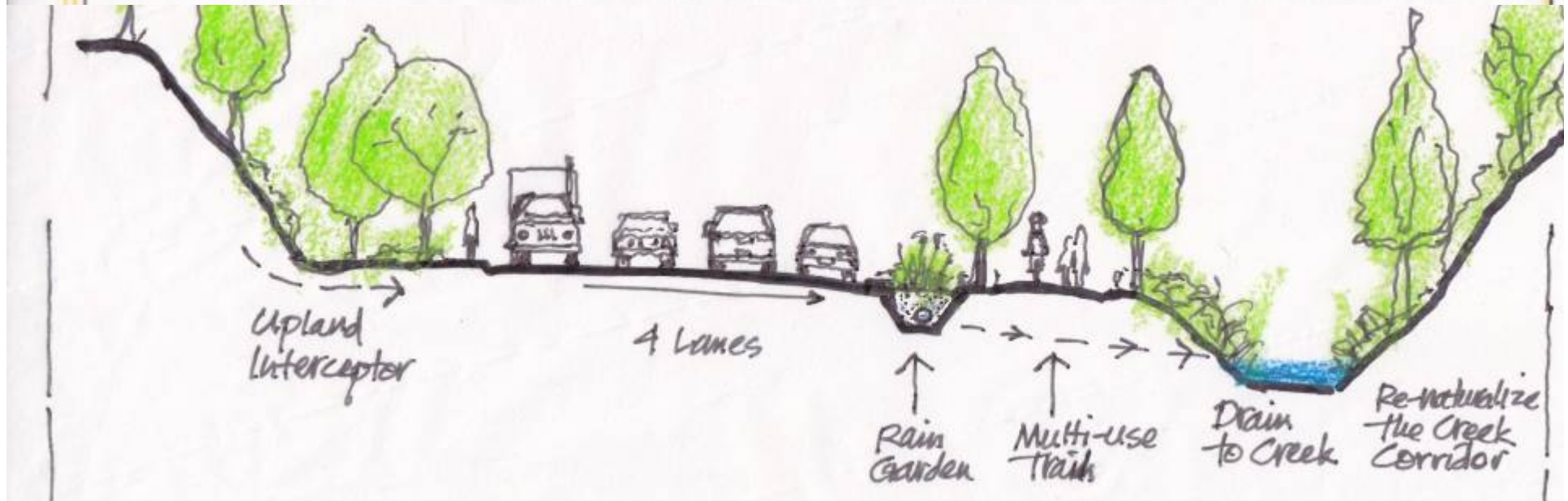
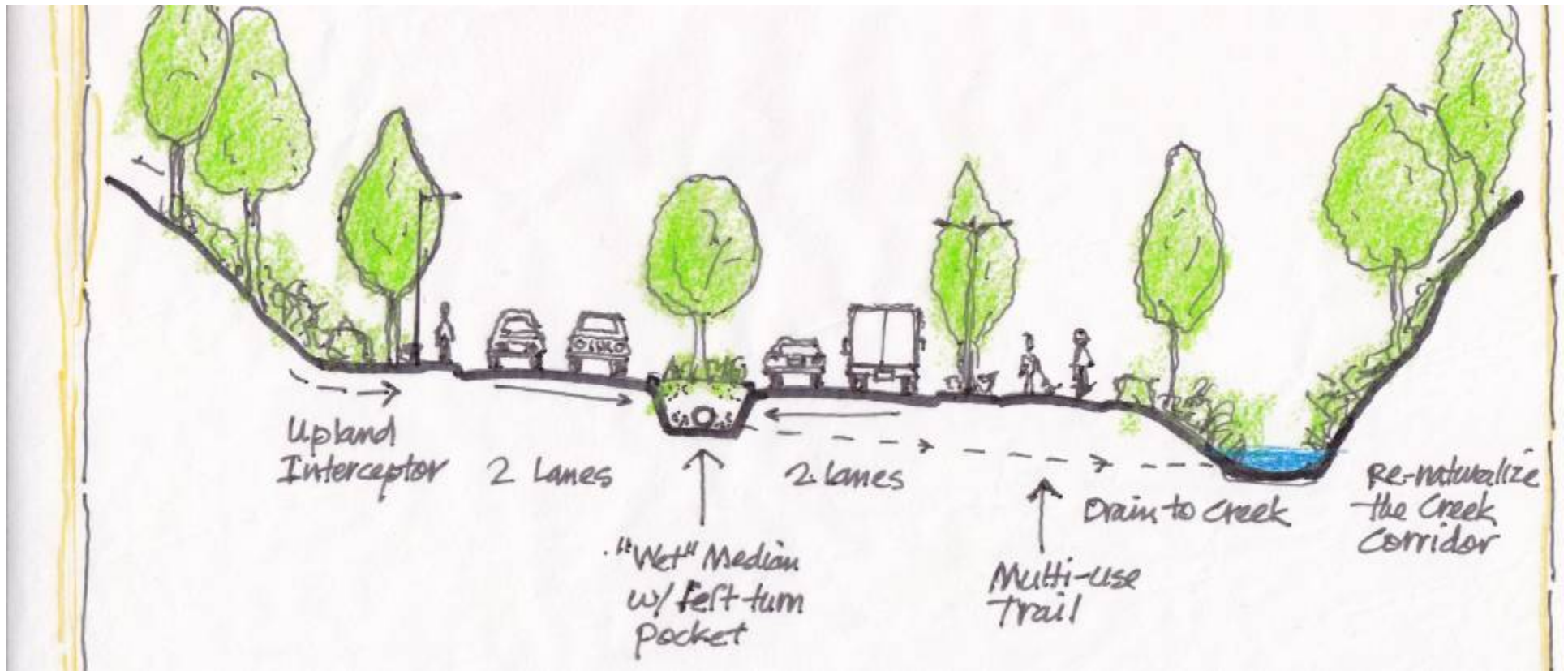


Liberty Tunnels

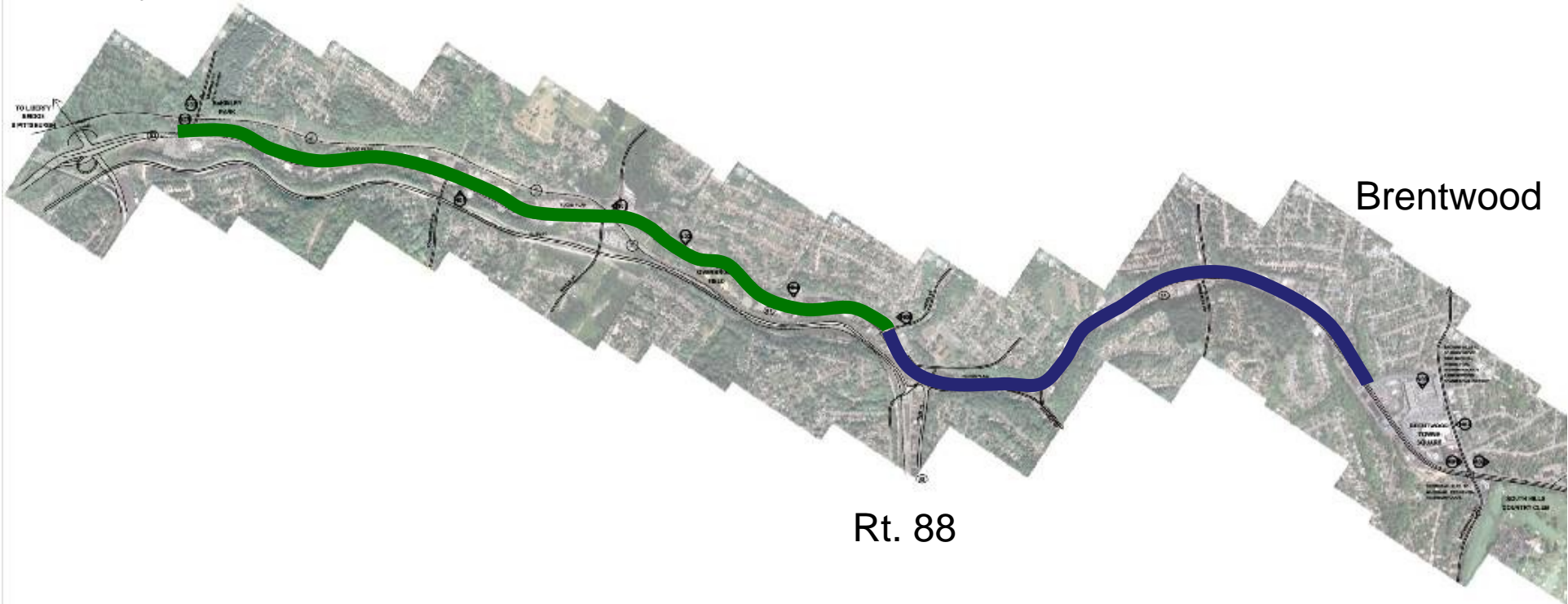


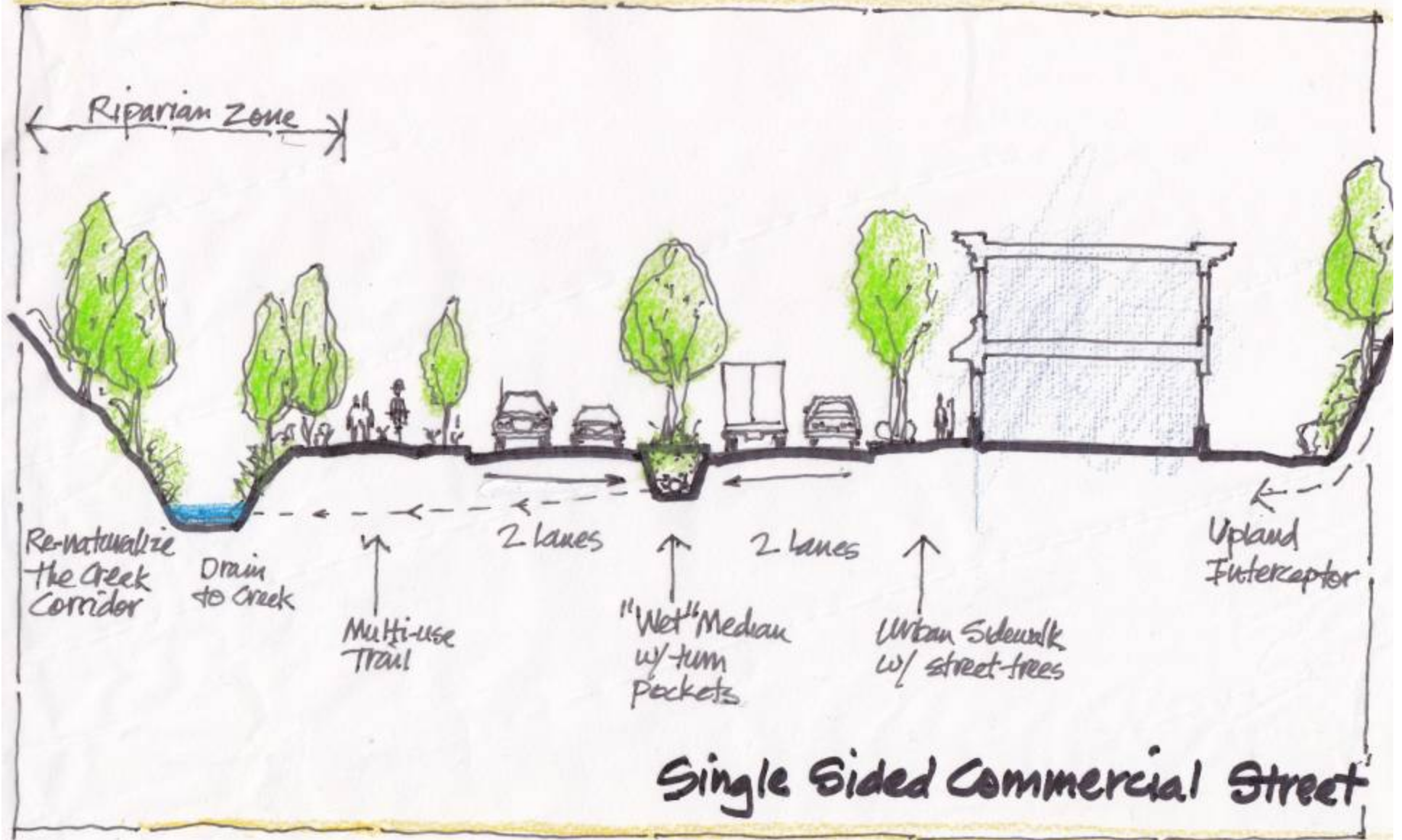
Rt. 88



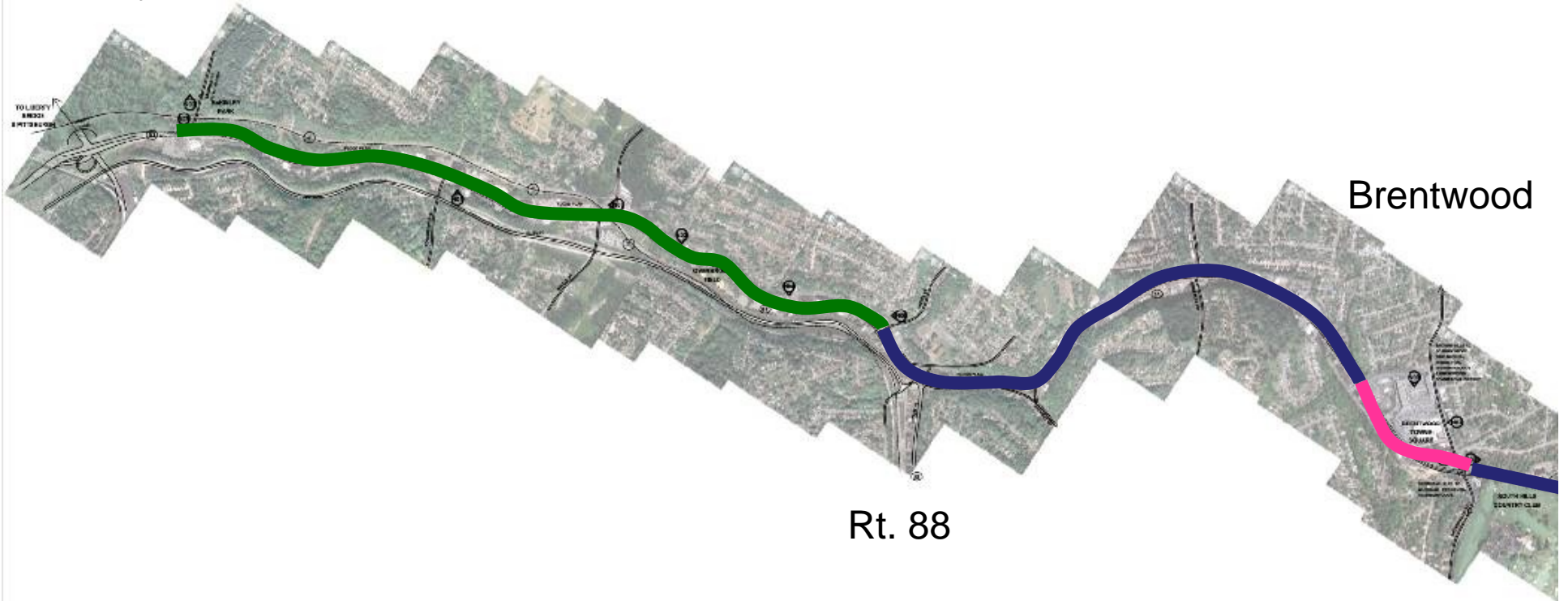


Liberty Tunnels



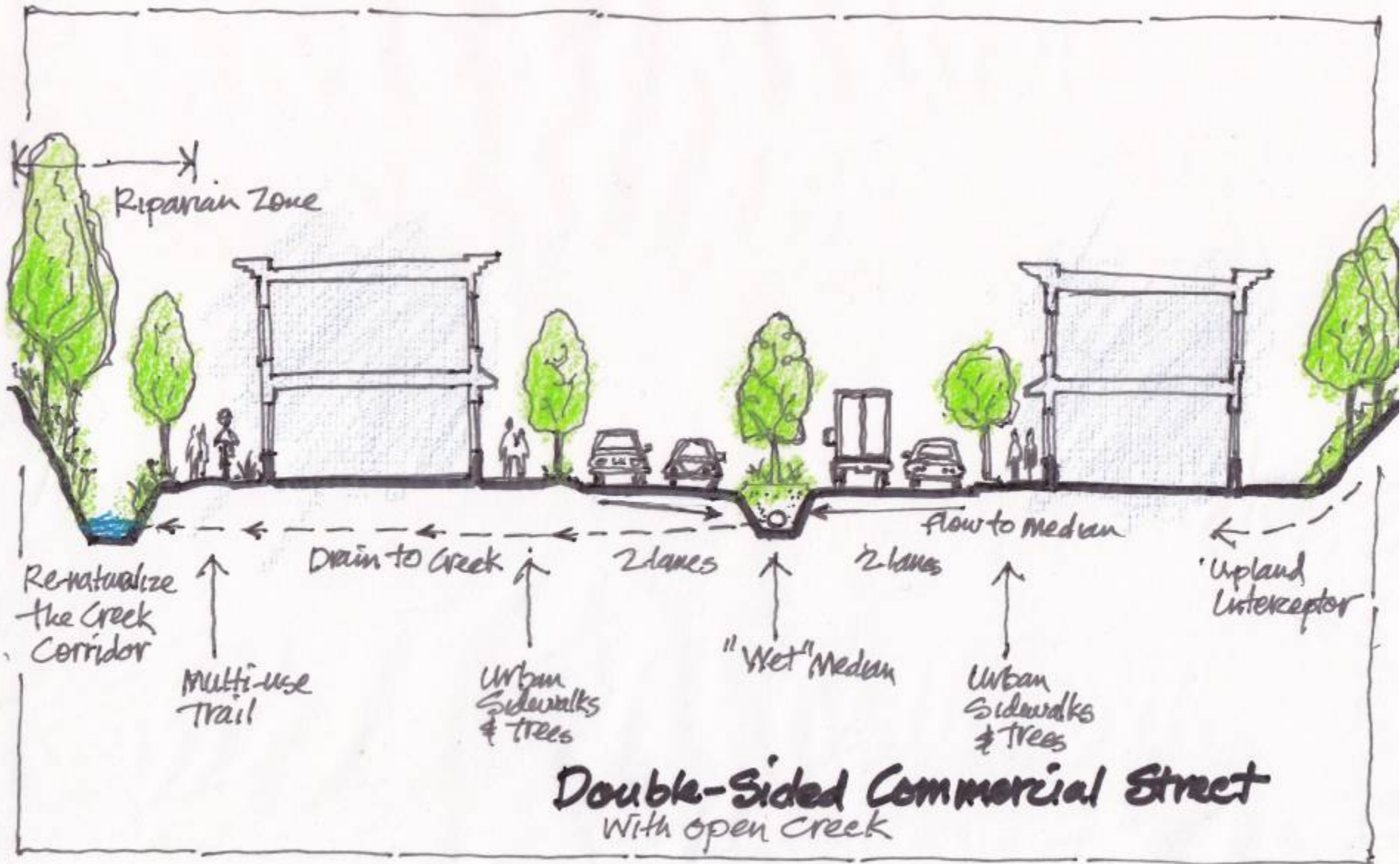


Liberty Tunnels

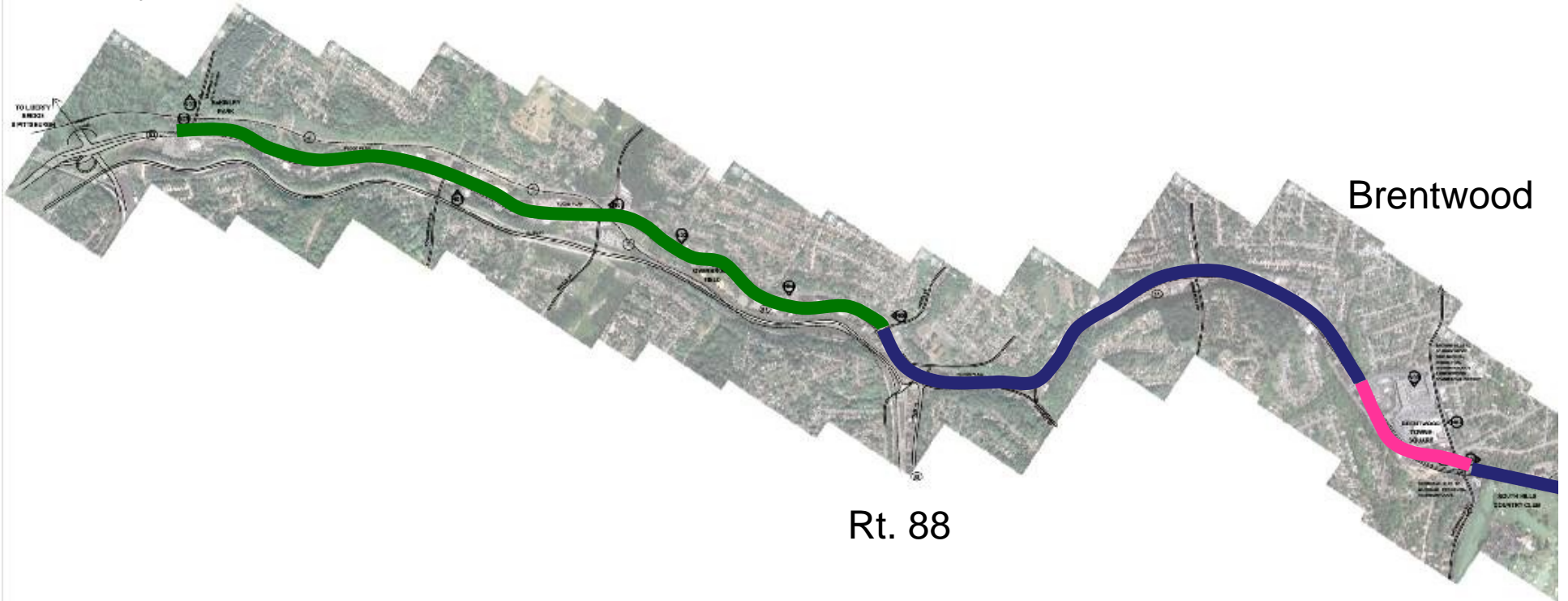


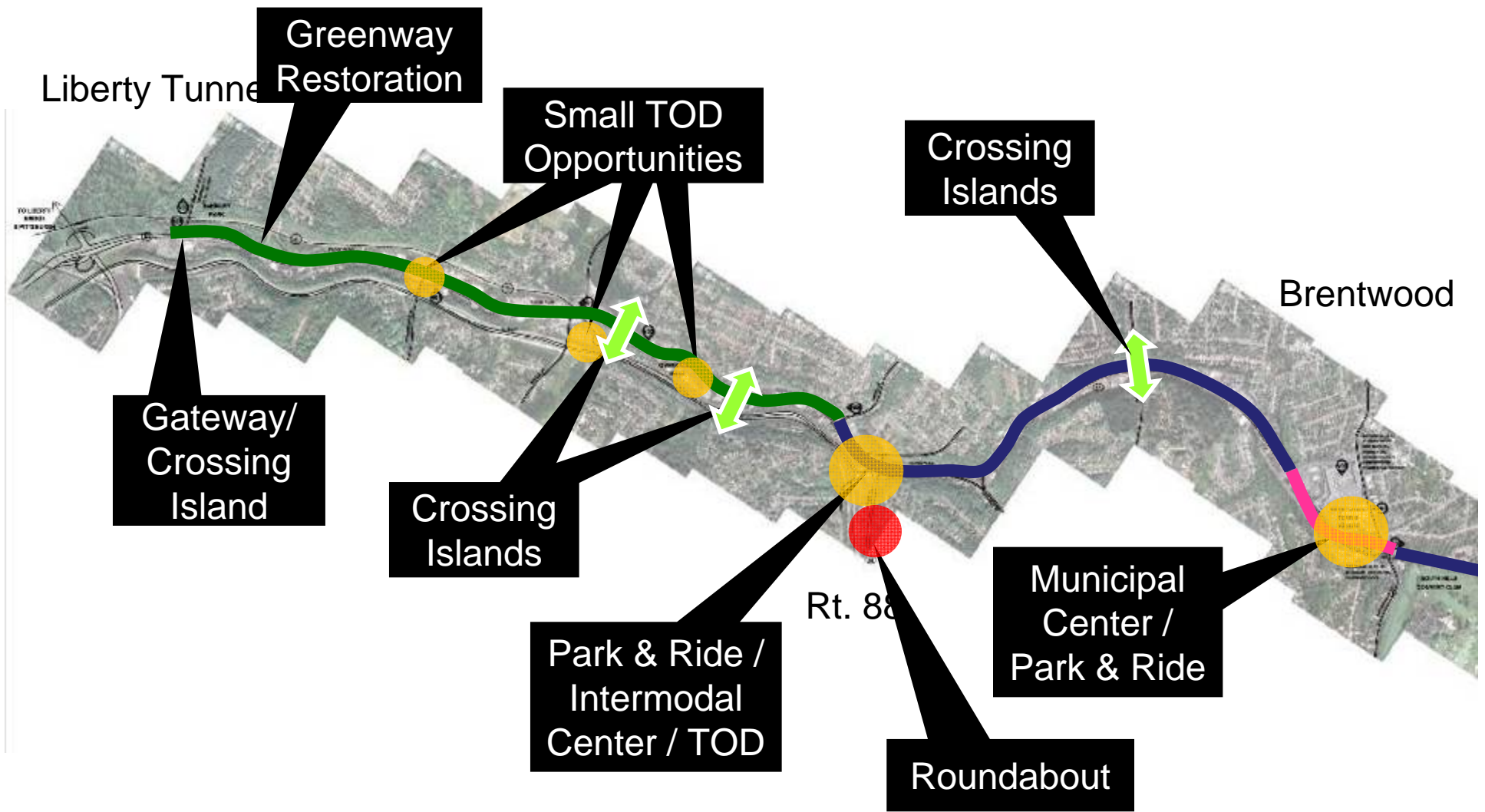
Rt. 88

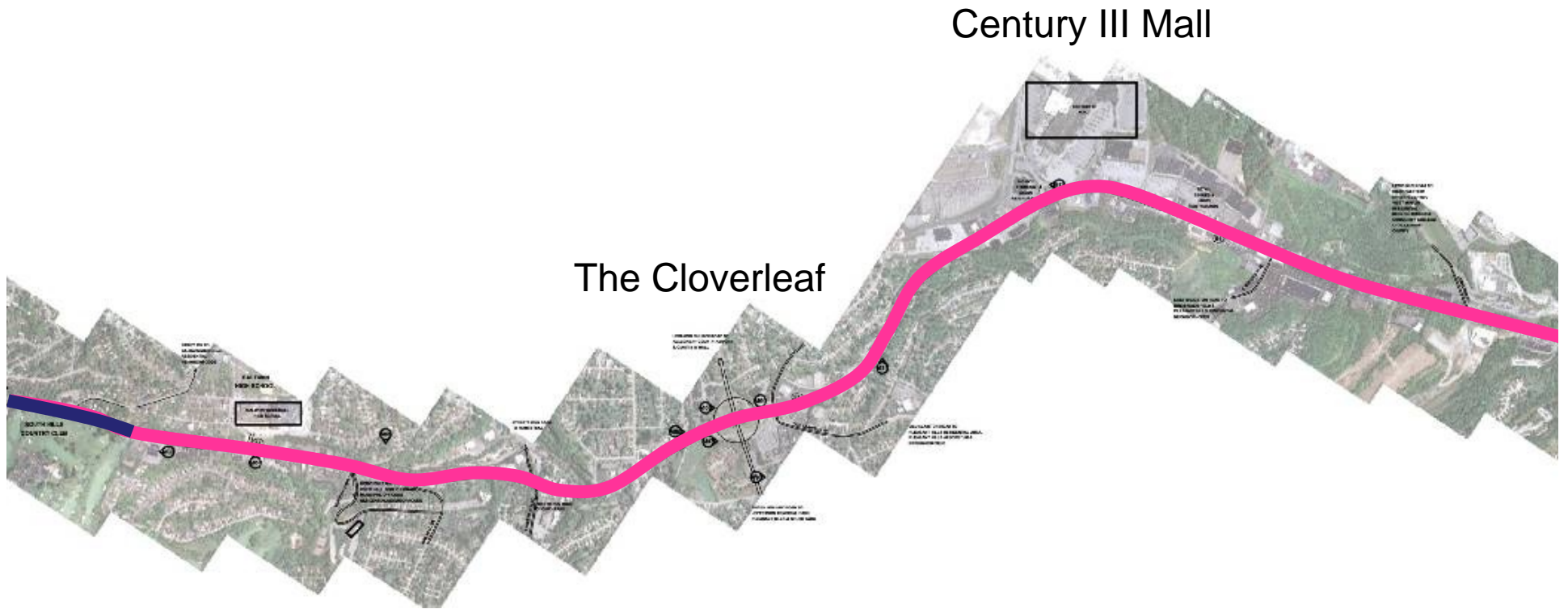


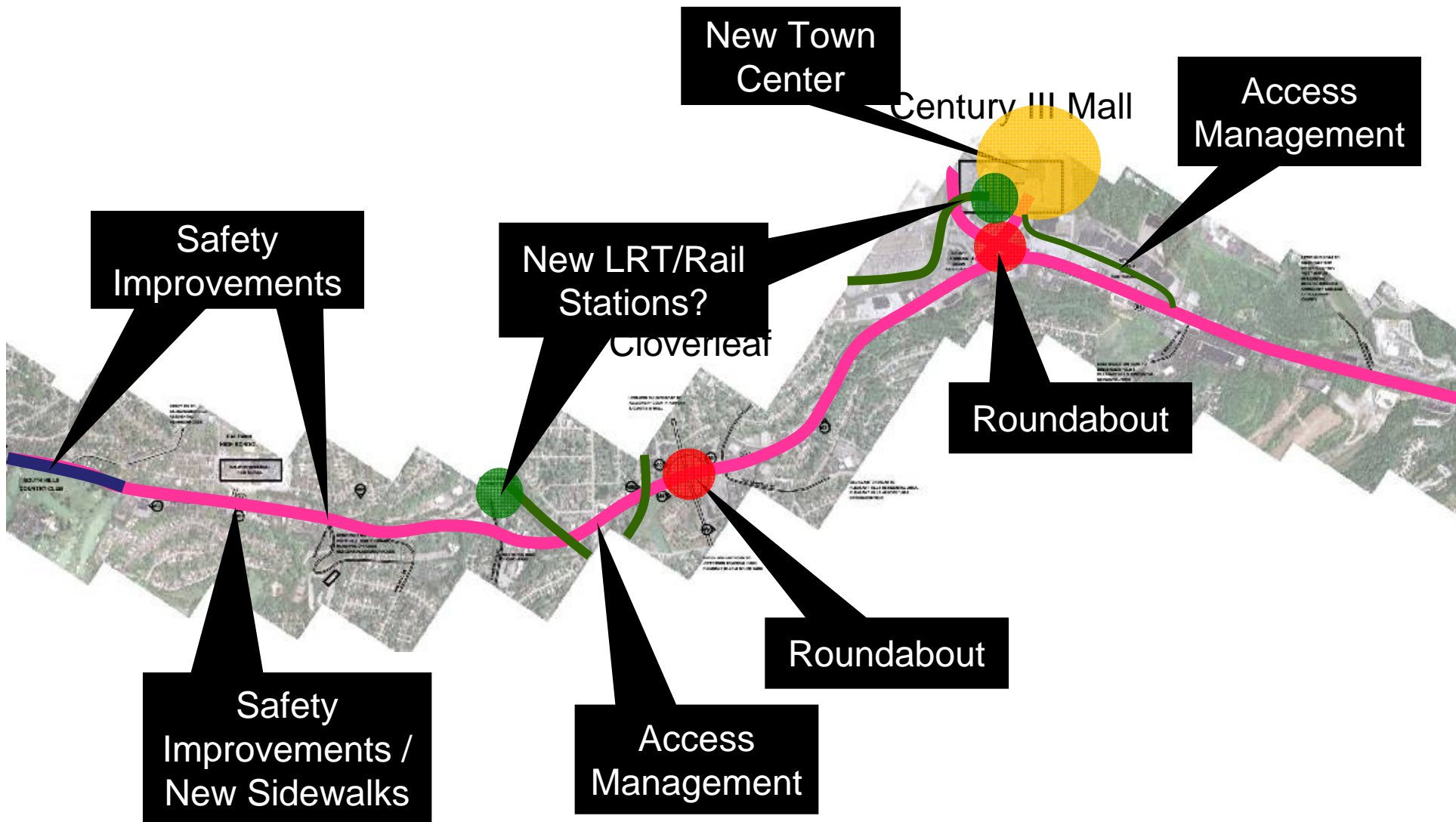


Liberty Tunnels

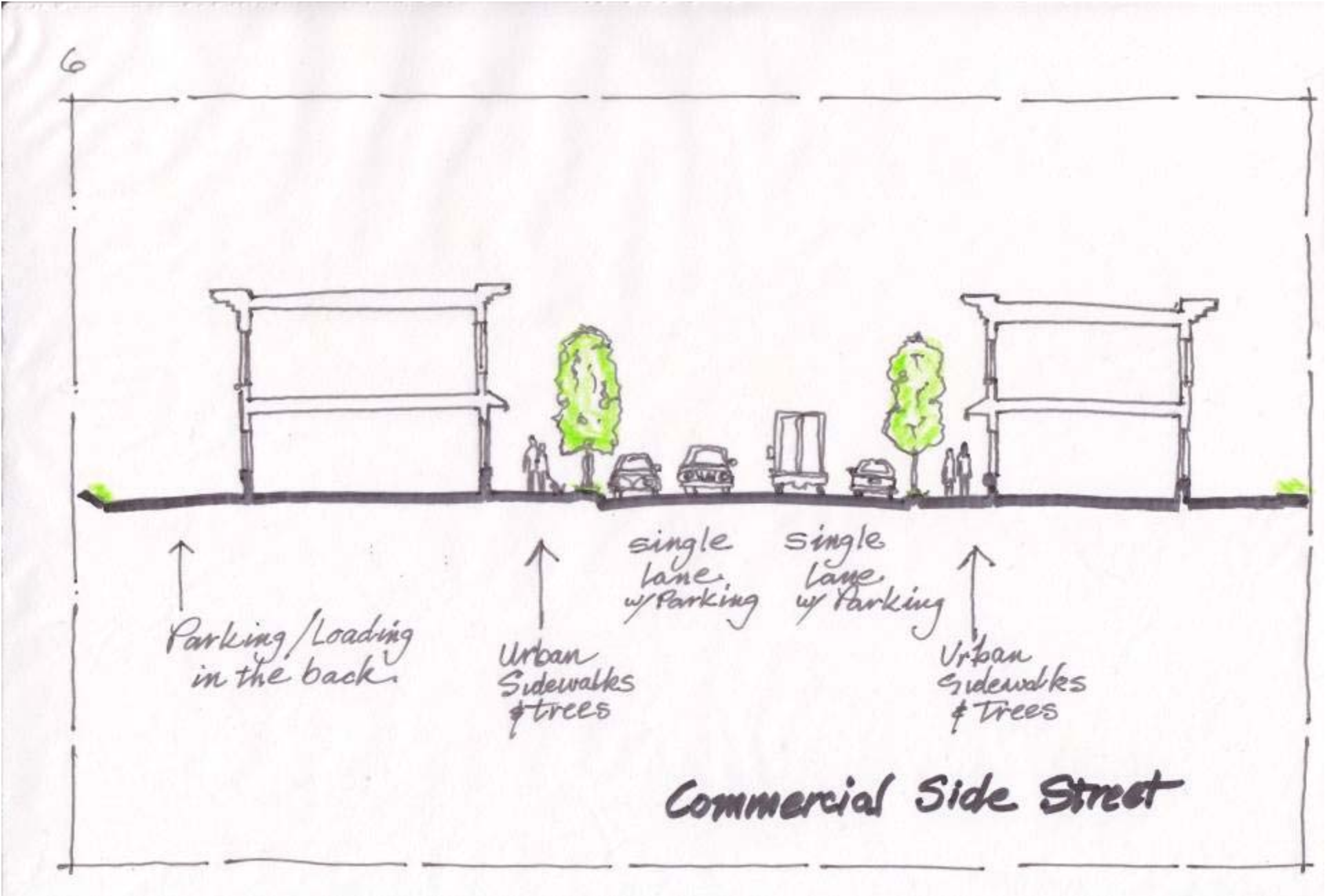


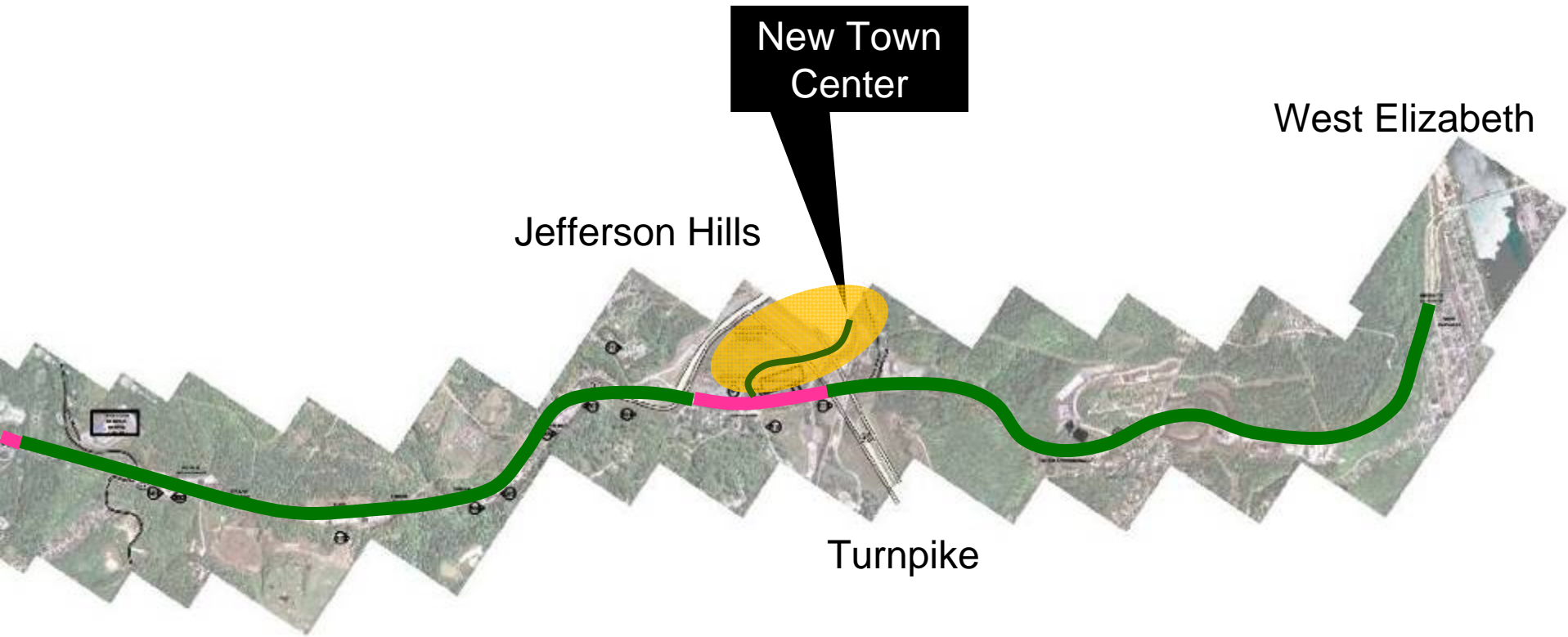






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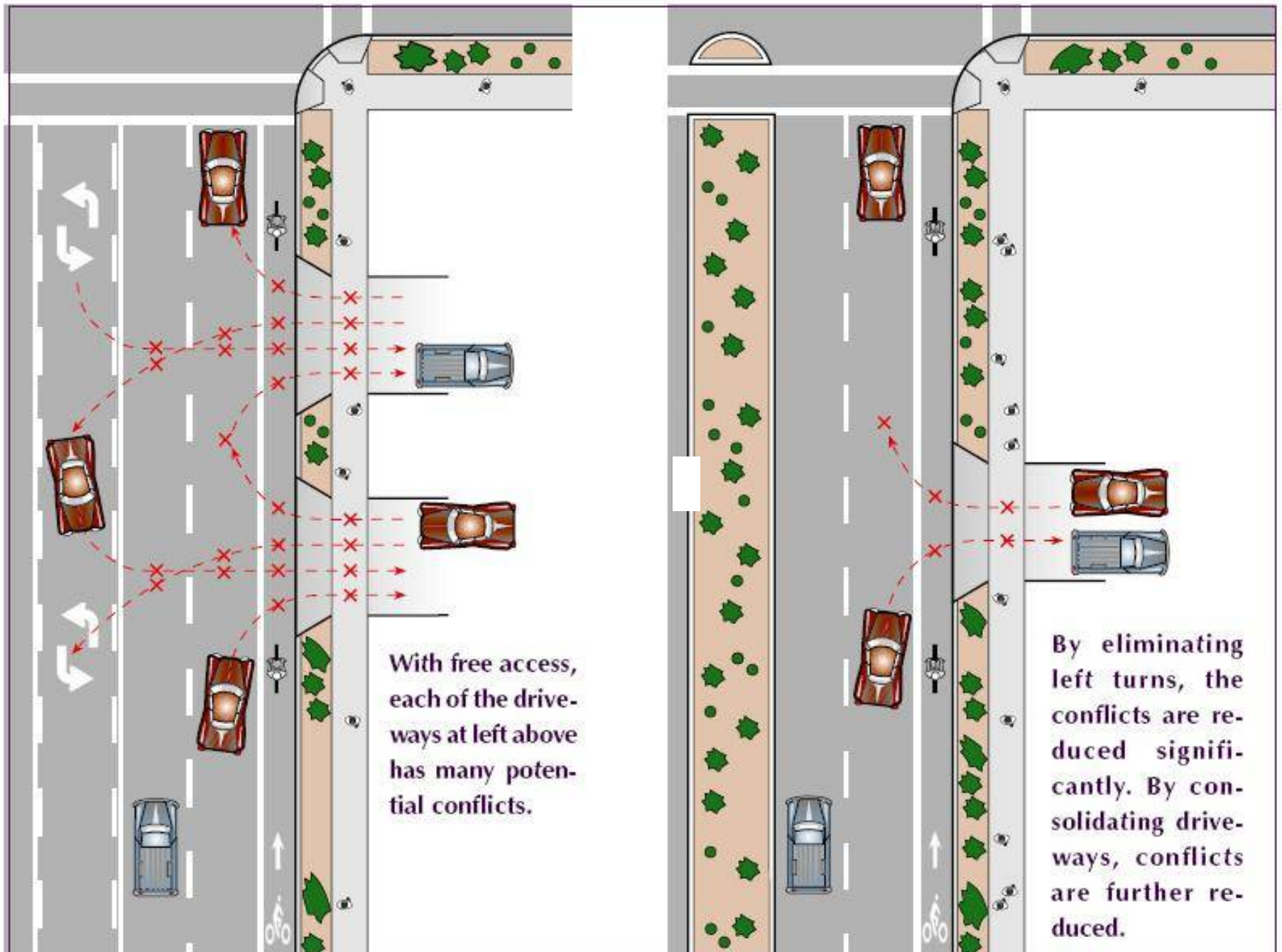


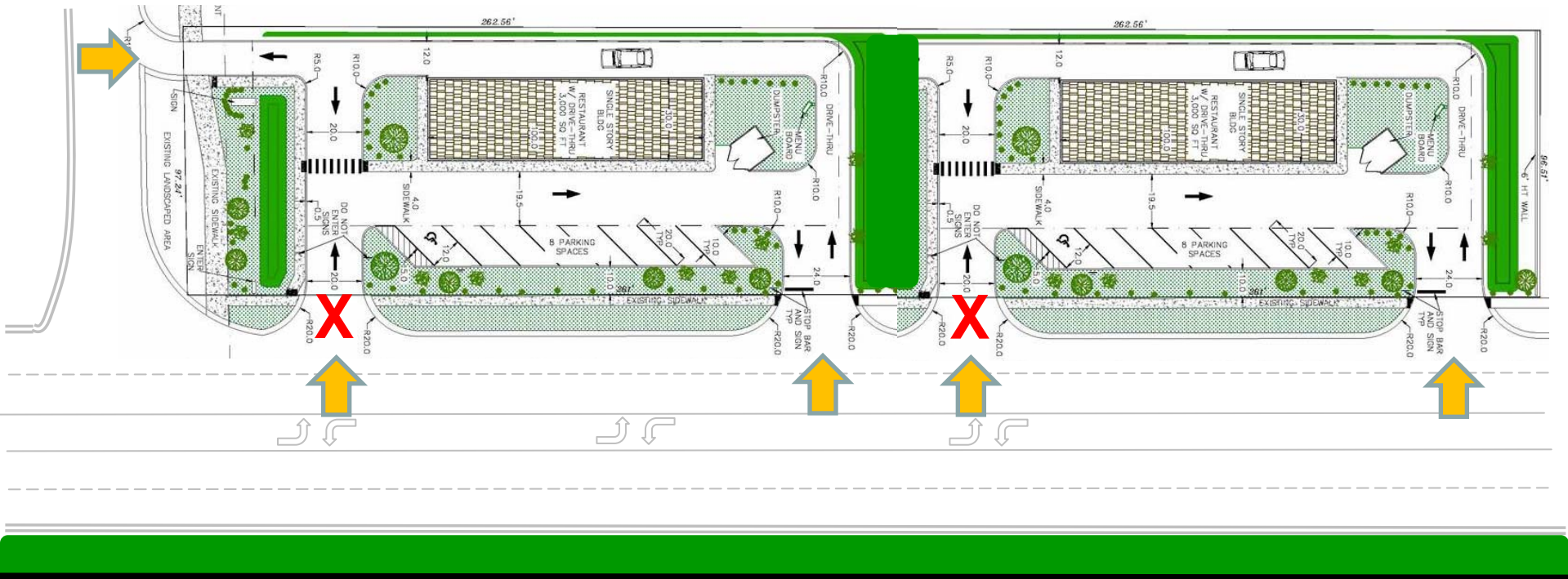


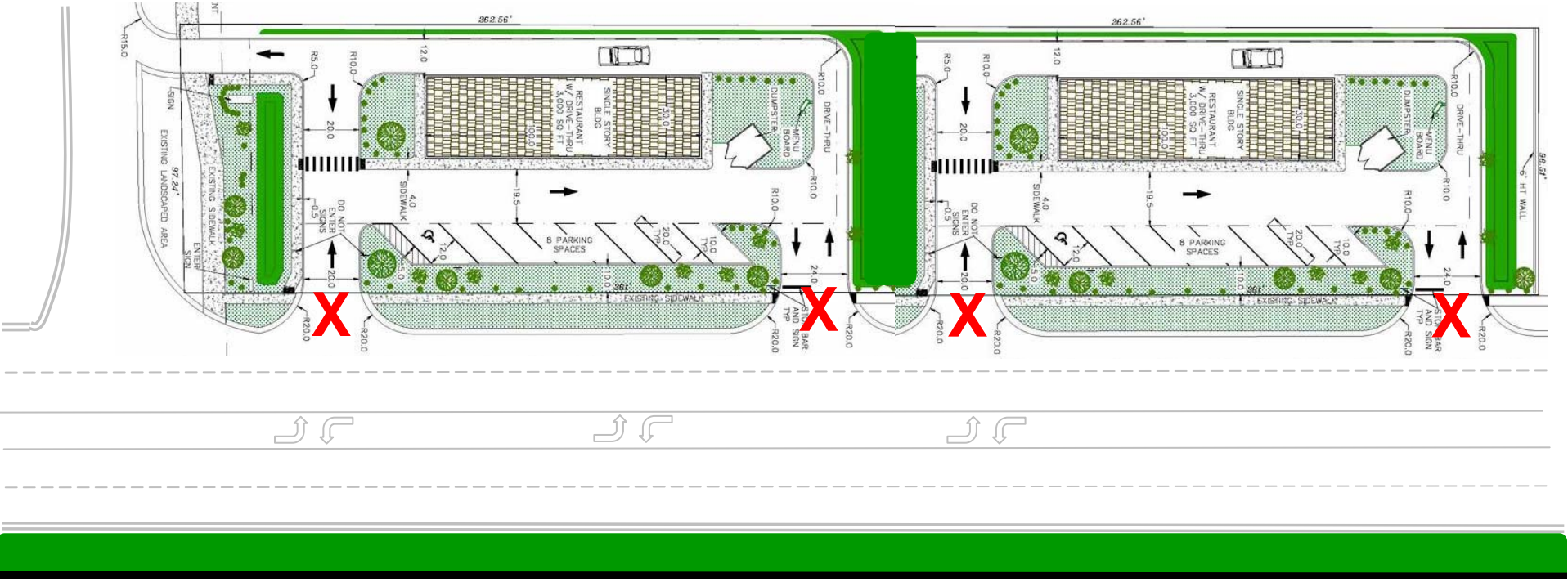
1. Congestion Relief: Access Management



Driveway conflicts contribute to unsafe sidewalks and roads.



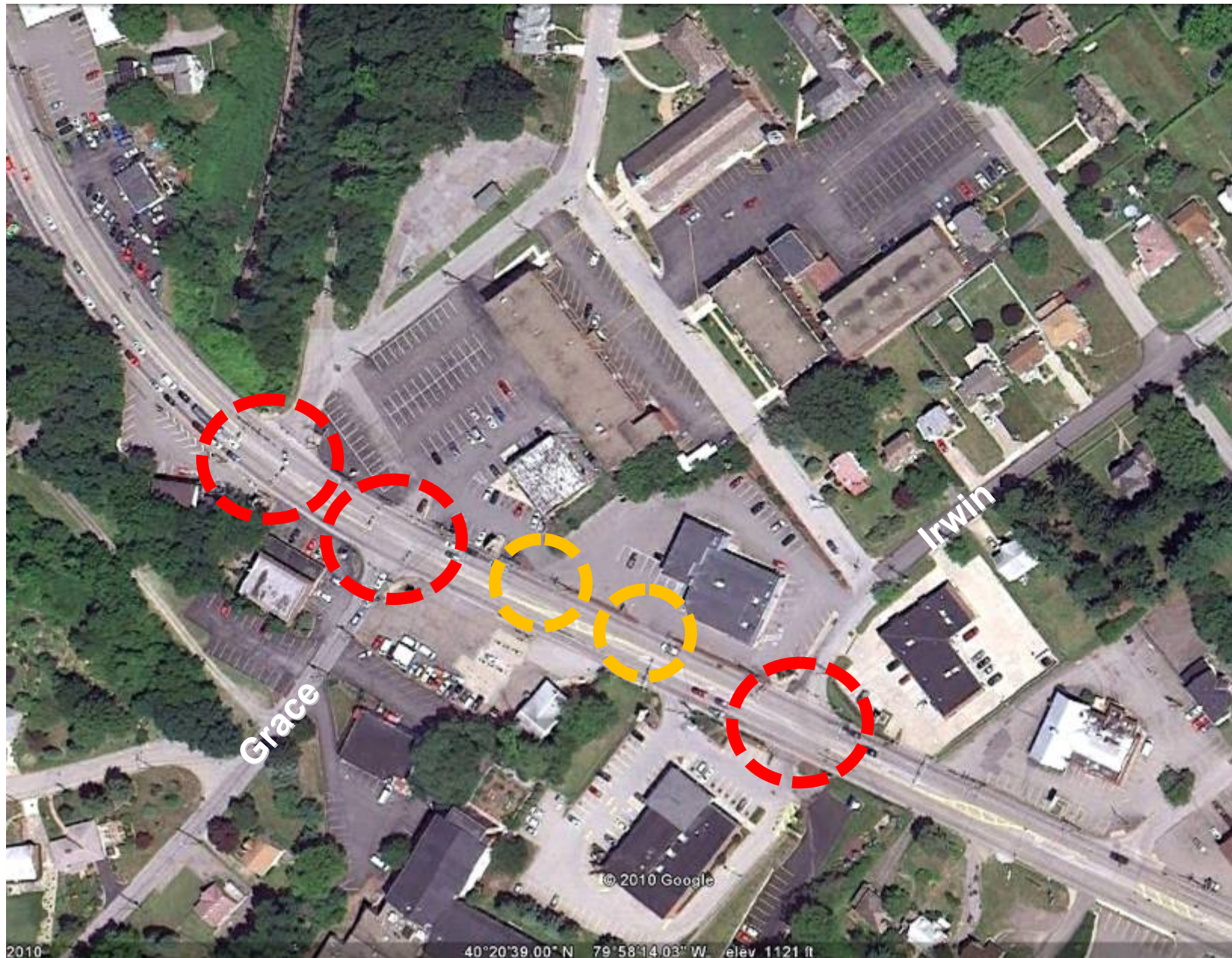






Route 51 South Hills Parkway AIA SDAT





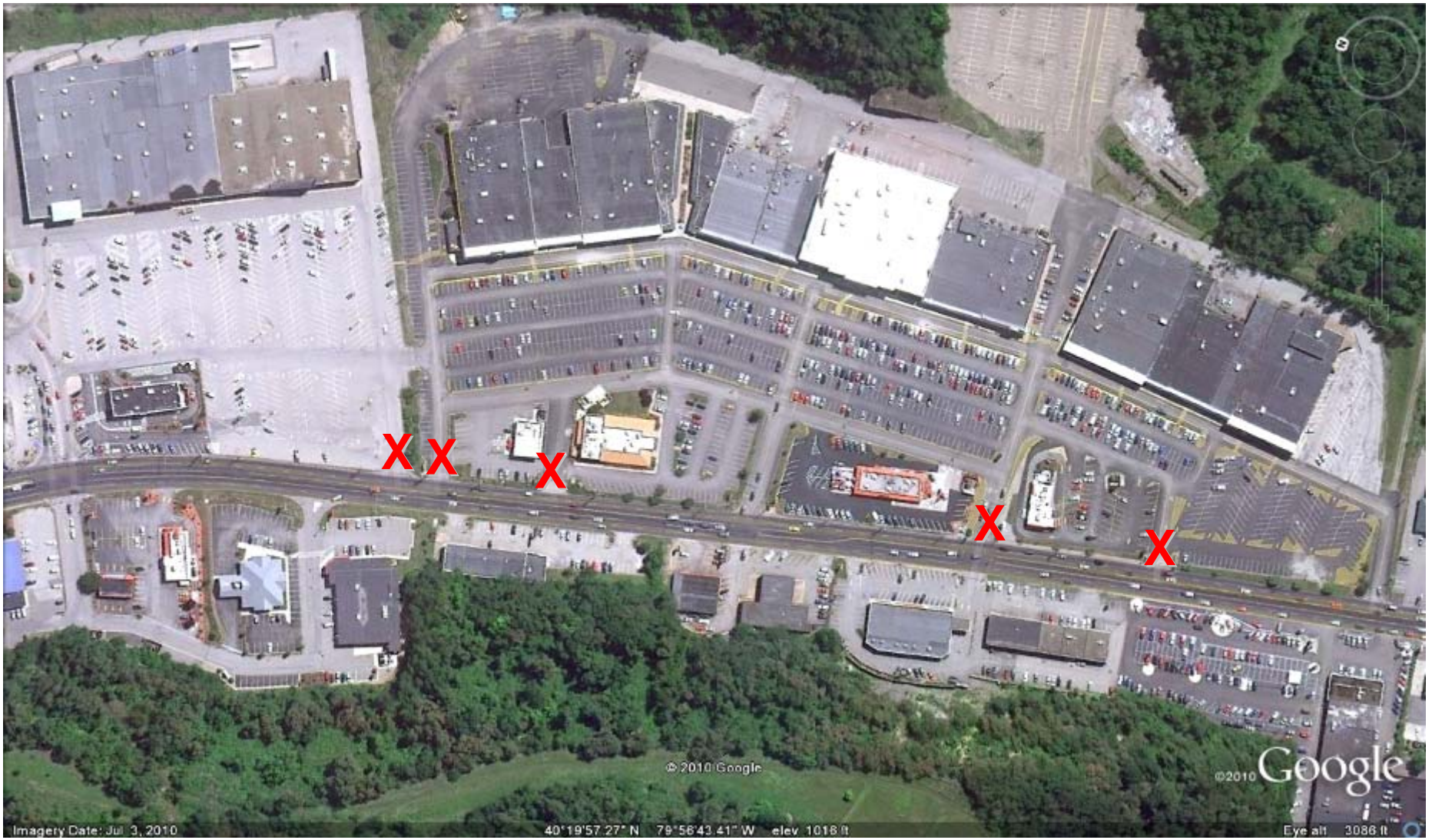
Route 51 South Hills Parkway AIA SDAT





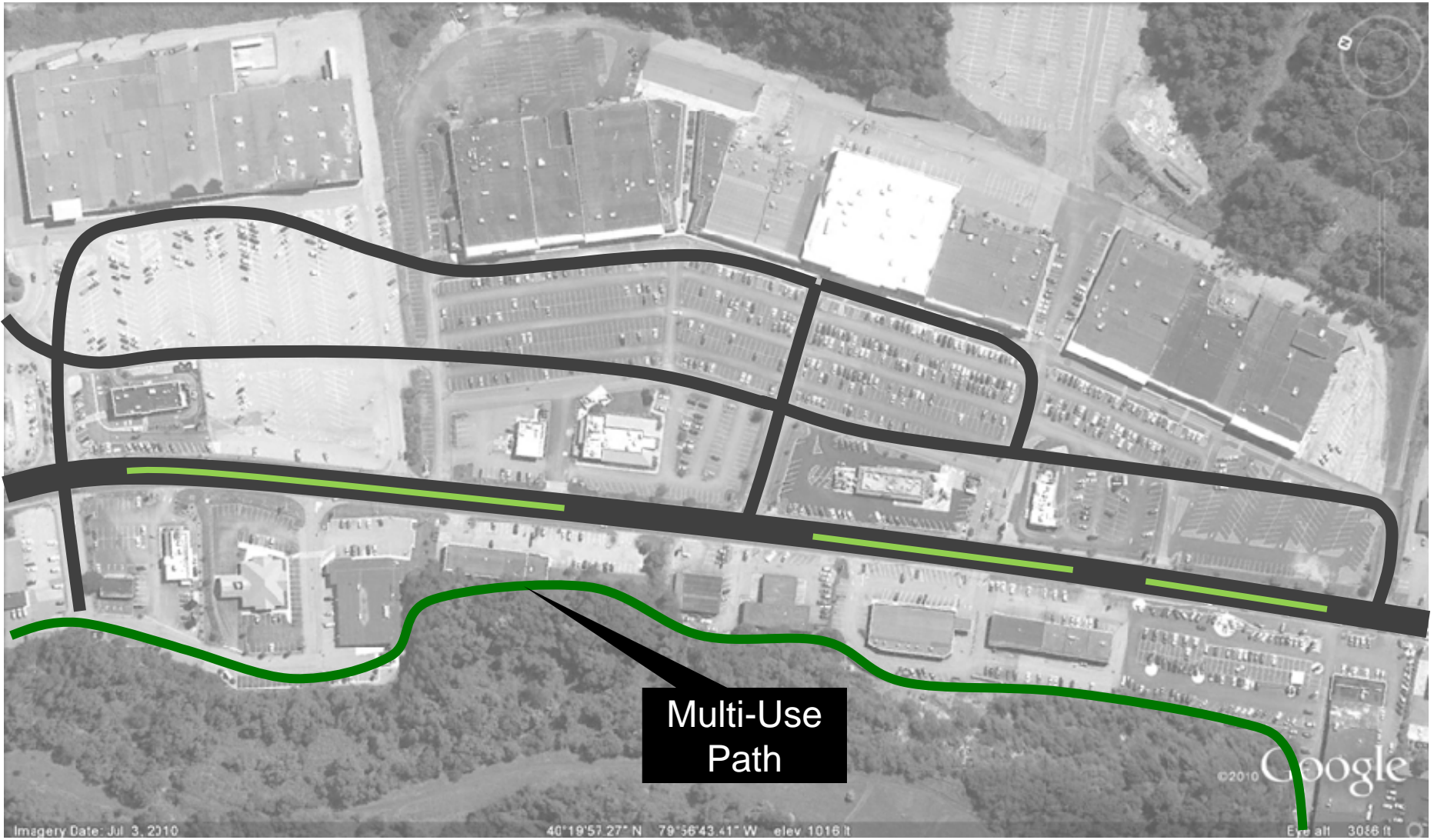
Route 51 South Hills Parkway AIA SDAT



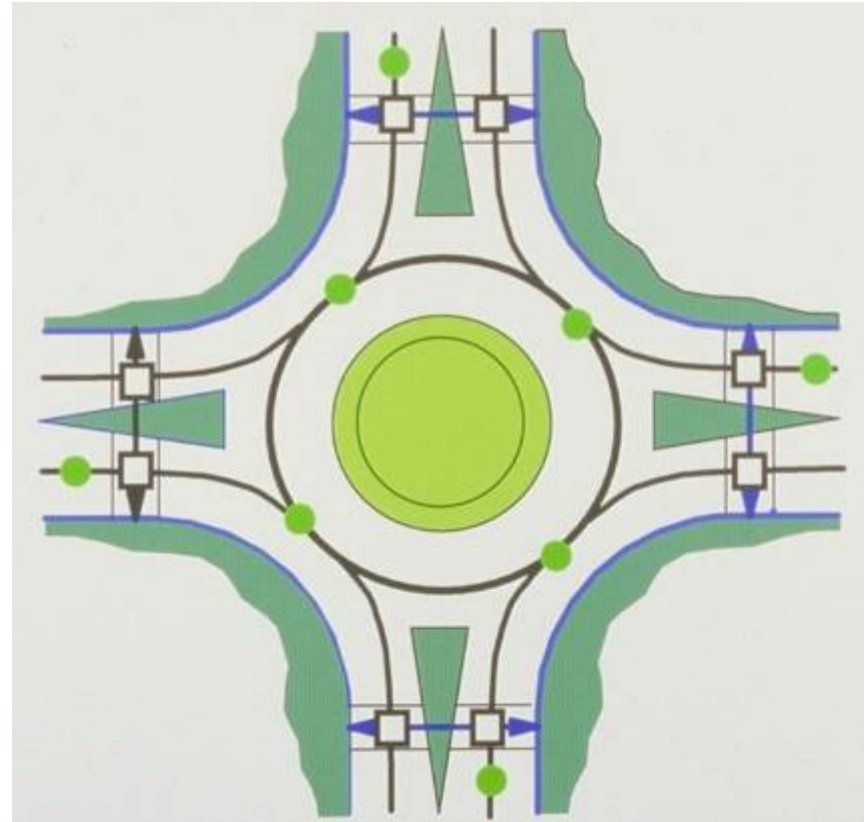
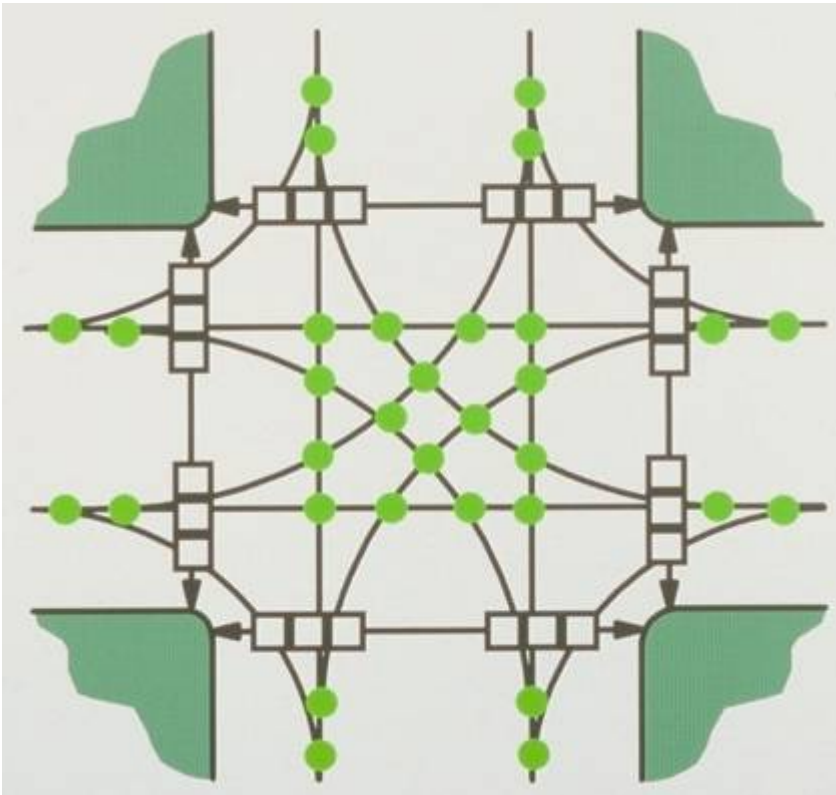


Route 51 South Hills Parkway AIA SDAT





2. Efficient Intersections: Roundabouts







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Roundabout Safety – United States

Decrease in Crashes:

- Overall: 39%
- Injury-producing: 76%
- Fatal or incapacitating: 90%

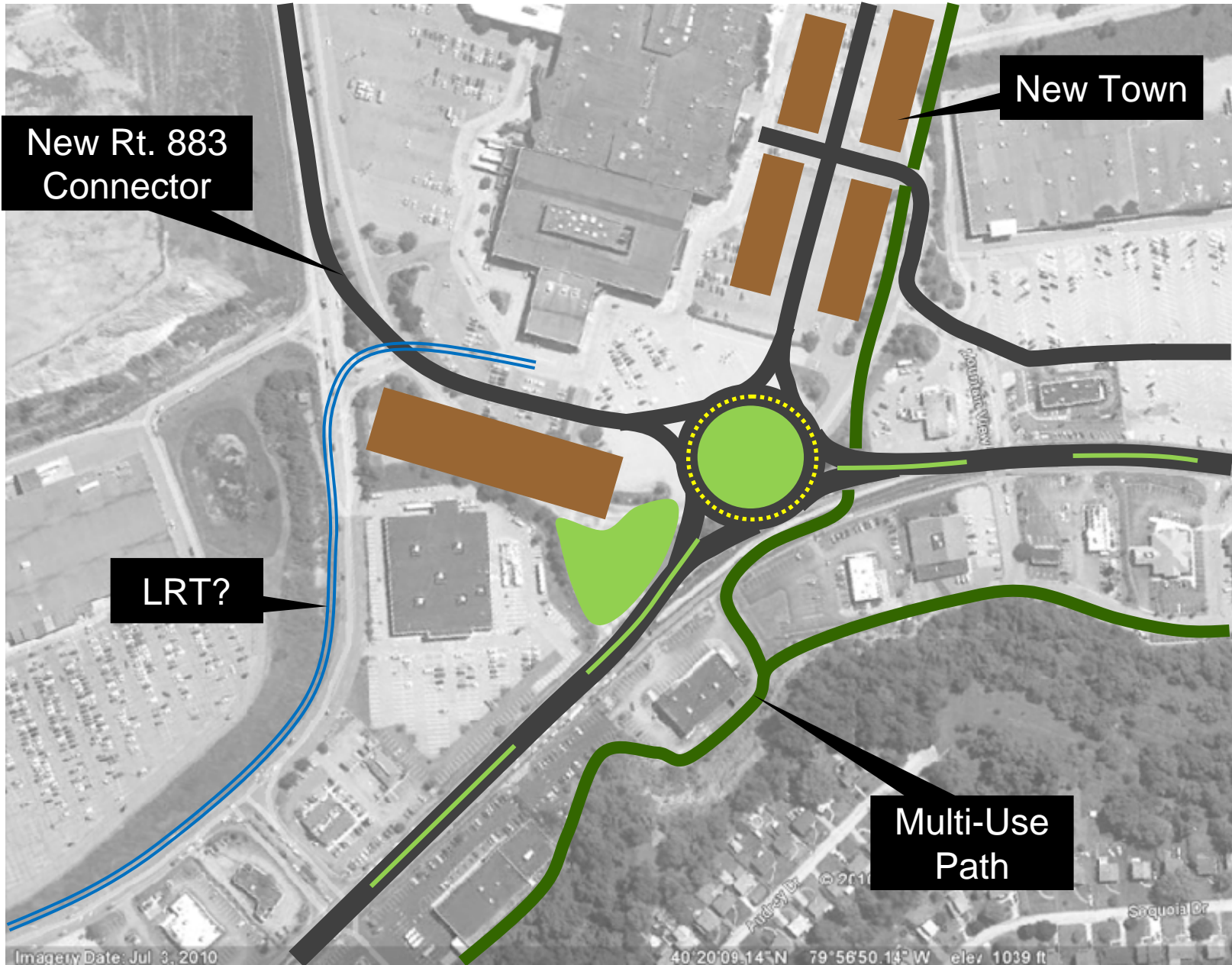
- "Crash Reductions Following Installation of Roundabouts in the United States"
B. Persaud et al., Insurance Institute for Highway Safety, March 2000

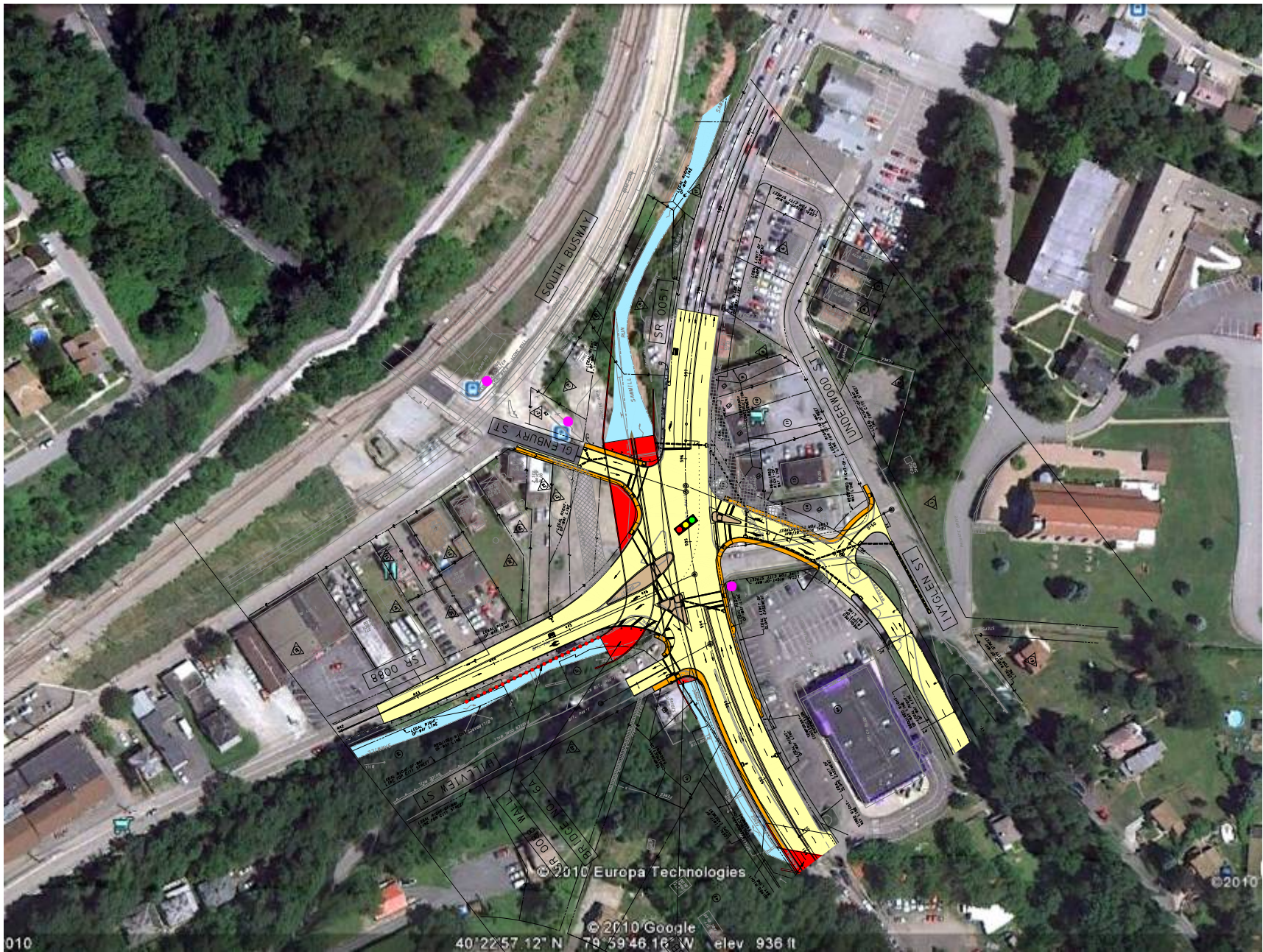




New Rt. 883
Connector







Route 51 South Hills Parkway AIA SDAT





Route 51 South Hills Parkway AIA SDAT





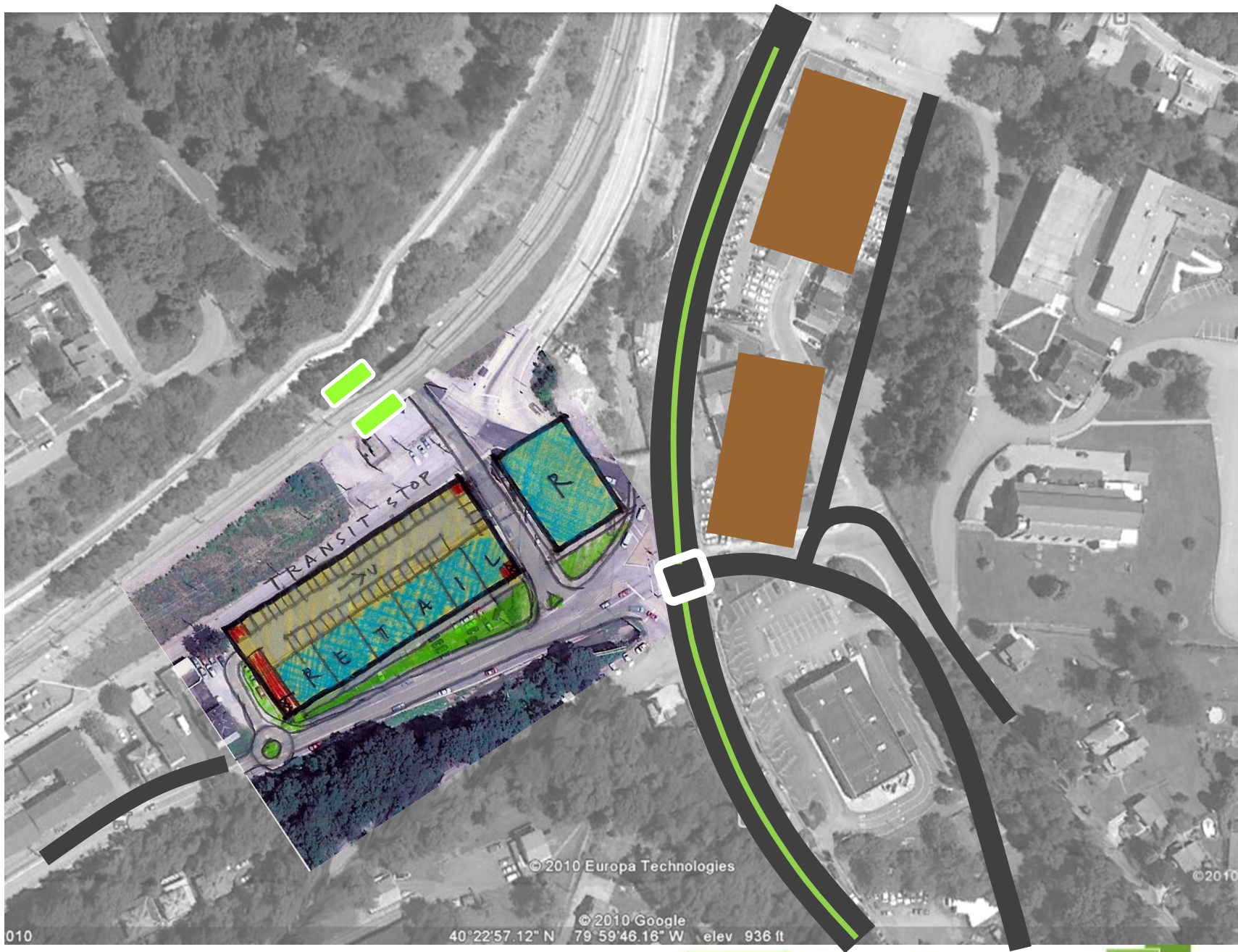
Route 51 South Hills Parkway AIA SDAT





Route 51 South Hills Parkway AIA SDAT



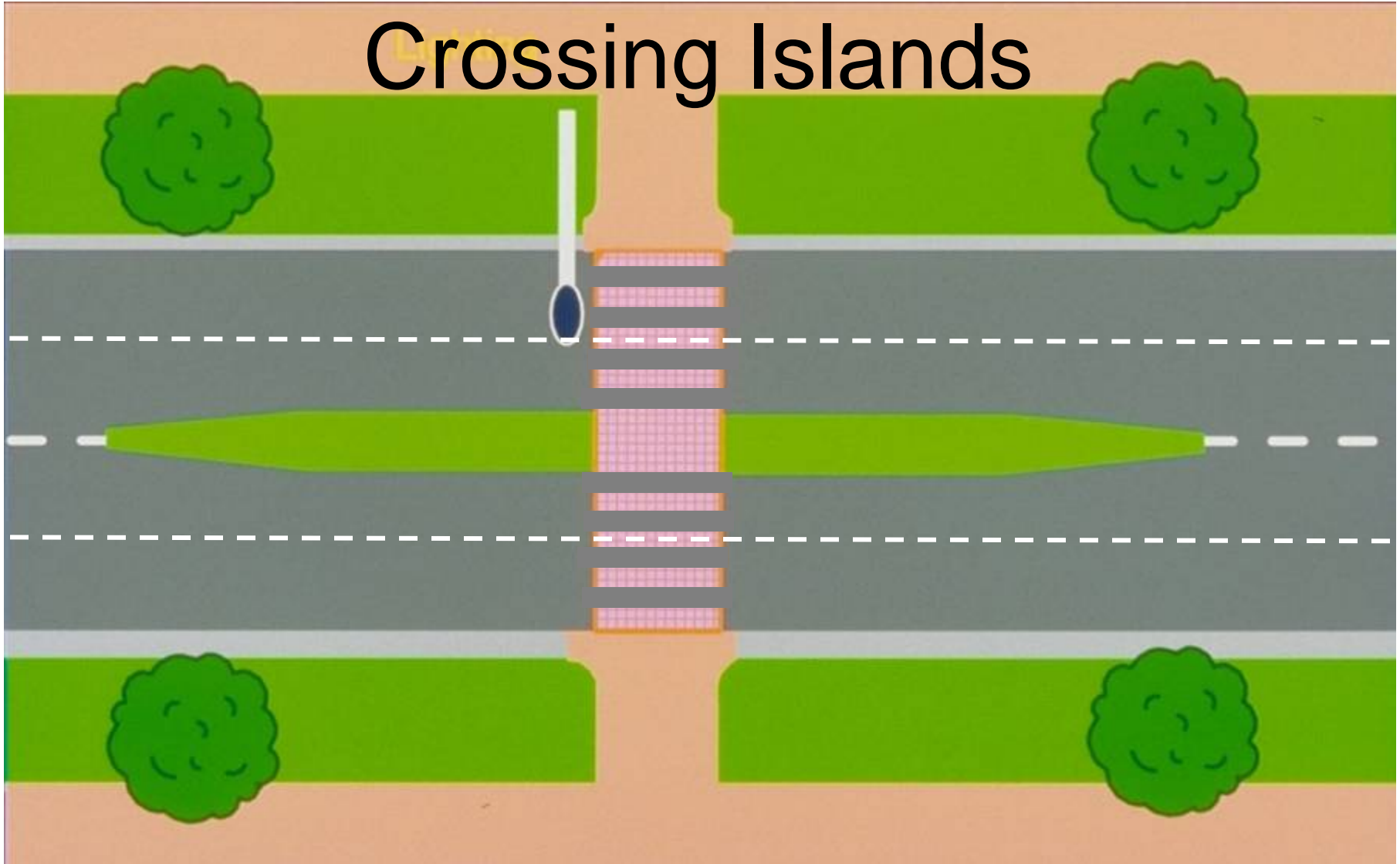


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3. Pedestrian Protection: Crossing Islands



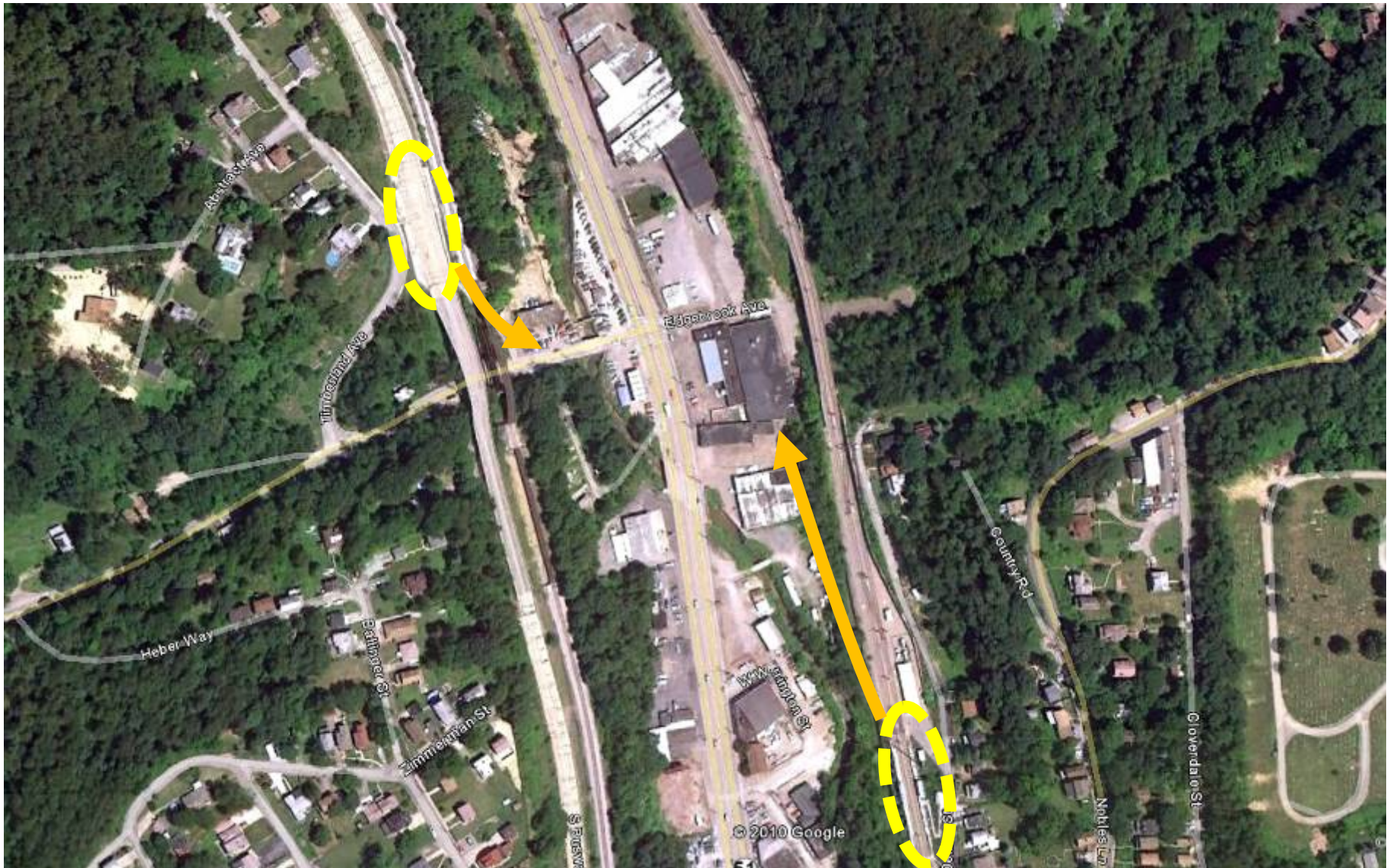


Route 51 South Hills Parkway AIA GDAI



Pedestrian Protection: Crossing Islands







Route 51 South Hills Parkway AIA SDAT



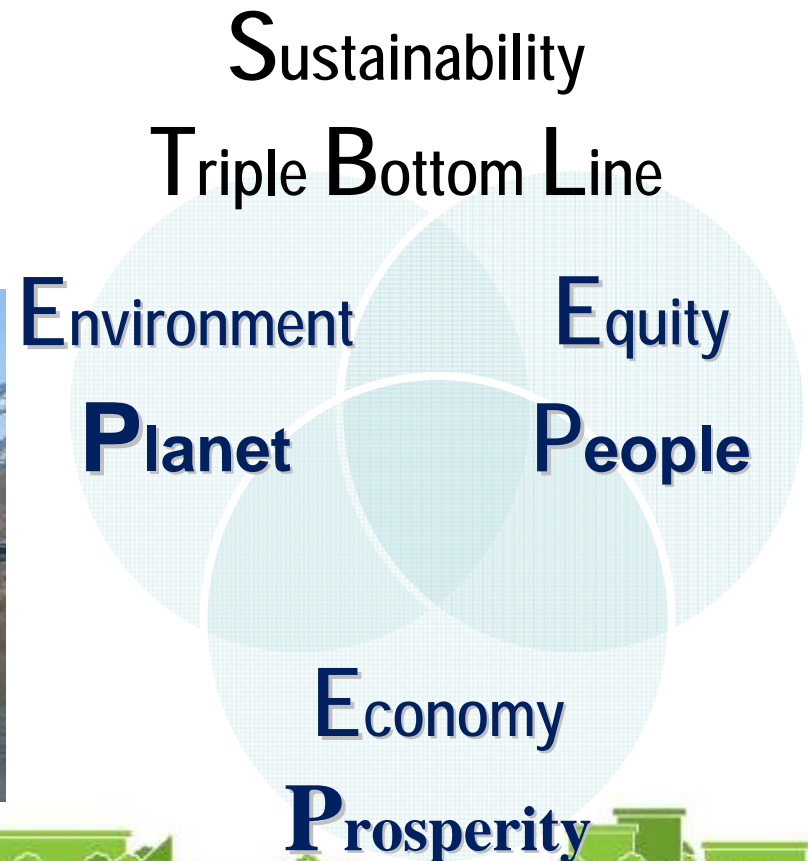


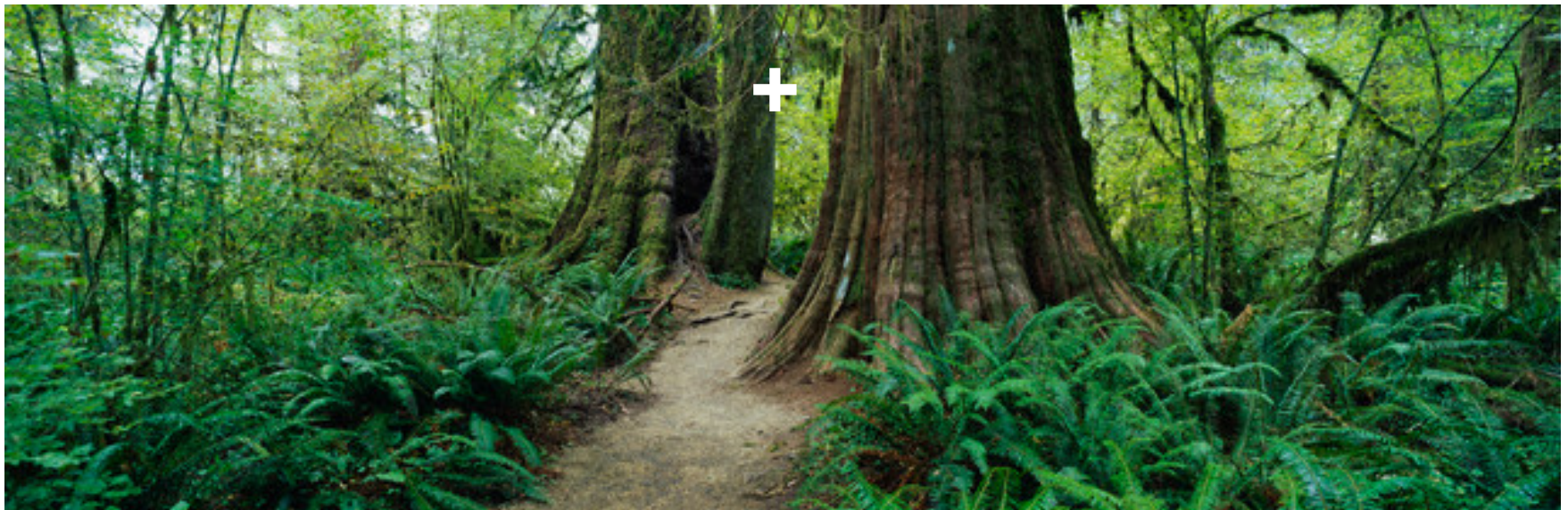
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- **Design with Nature**

- Tom von Schrader, PE, LEED AP





vibrant green cities are the key to regional and global environmental health





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- What is Green Infrastructure?
- Organizations
- Projects
- Resources and Publications
- Schedule of Events

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SUBMIT

Definition of Green Infrastructure

[Send to a Friend](#)

What is Green Infrastructure?

Green infrastructure is strategically planned and managed networks of natural lands, working landscapes and other open spaces that conserve ecosystem values and functions and provide associated benefits to human populations.

The foundation of green infrastructure networks are their natural elements – woodlands, wetlands, rivers, grasslands – that work together as a whole to sustain ecological values and functions. Healthy functioning natural or restored ecological systems are essential to ensure the availability of the network's ecological services.

Additional elements and functions can then be added to the network, depending on the desires and needs of the designers – working lands, trails and other recreational features, cultural and historic sites. These all can be incorporated into green infrastructure networks that contribute to the health and quality of life for America's communities.

Connect to our Community



The Community of Practice is a virtual hub of knowledge and ideas – shared among peers – to promote the application of green infrastructure concepts and principles to the nation's conservation priorities. [Learn more »](#)

Featured Resource

Green Infrastructure: Linking
Landscapes and Communities



Green
Infrastructure:
Linking
Landscapes and
Communities by

green INFRASTRUCTURE





Minneapolis's Grand Rounds by Horace Cleveland



Boston's Emerald Necklace by FLO

green INFRASTRUCTURE

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Green Infrastructure Systems



Mobility

Water
(LID)

Community

Habitat

Energy



energy

increased non-motorized opportunities

LED traffic signals

PV cell powered lighting

recycled pavement

utilize local materials

community

multifunctional street

streetside gathering space

public art elements

street plaza

wheel bumper seat

mobility

continuous sidewalks

bike lanes / sharrows

transit stops

midblock crossing zone

streetside pedestrian refugia

habitat

tree canopy

urban forest understory

water

rain garden

streetside cisterns

porous paving

stormwater planter

conveyance runnel

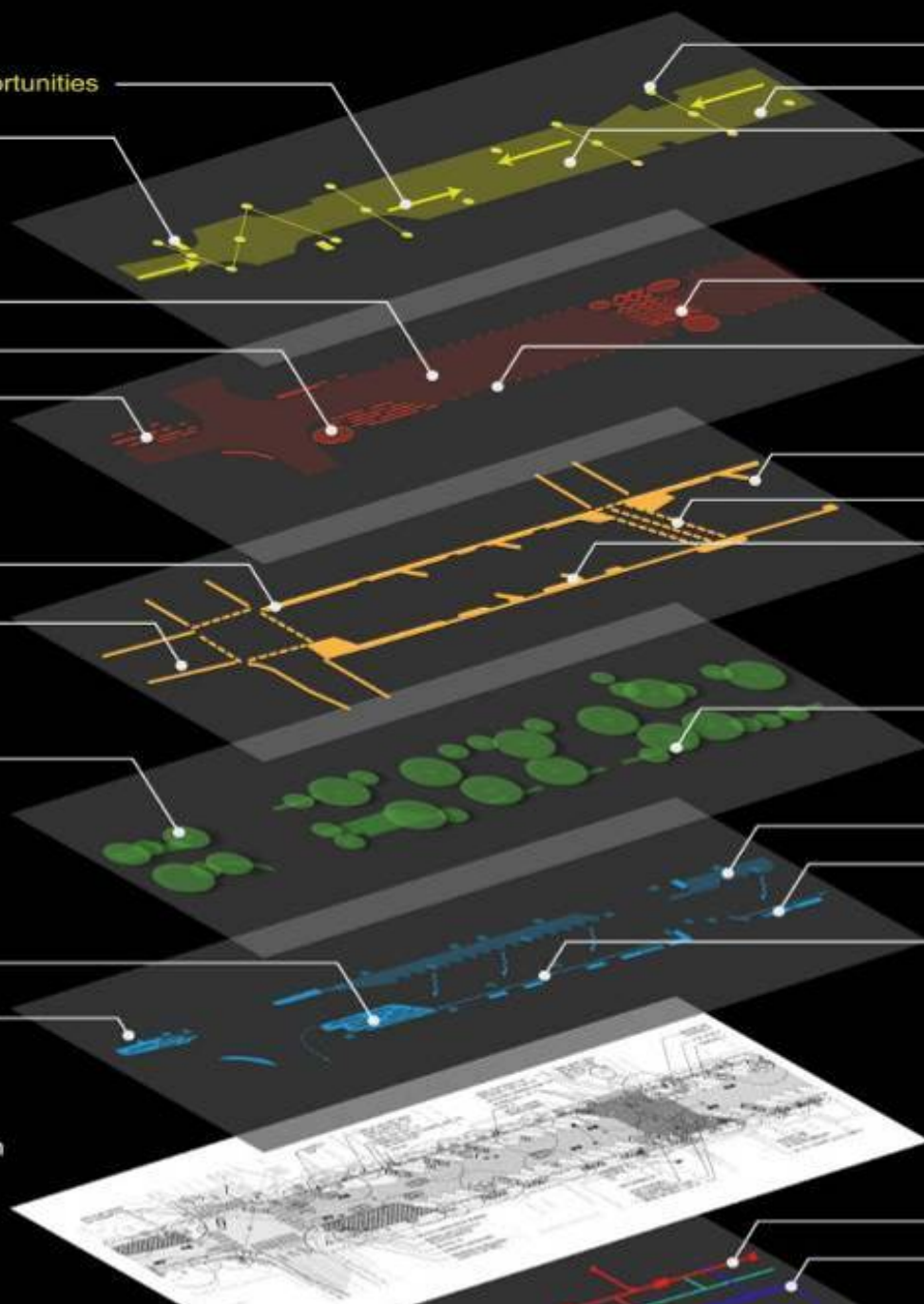
WINSLOW WAY

Bainbridge Island, Washington

underground utilities

power

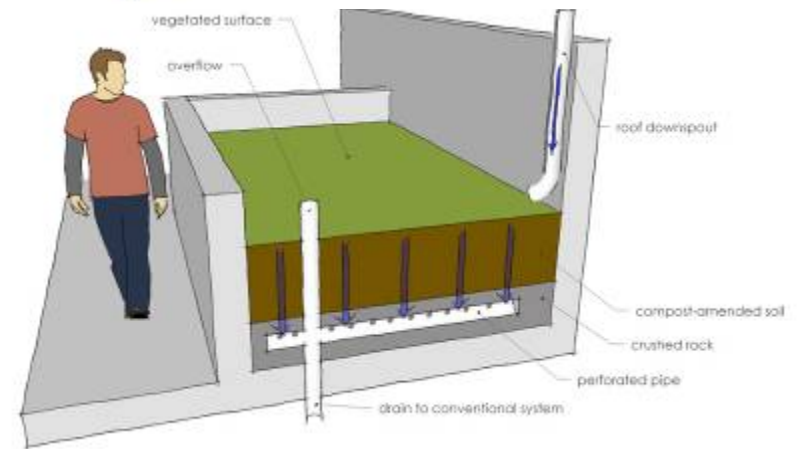
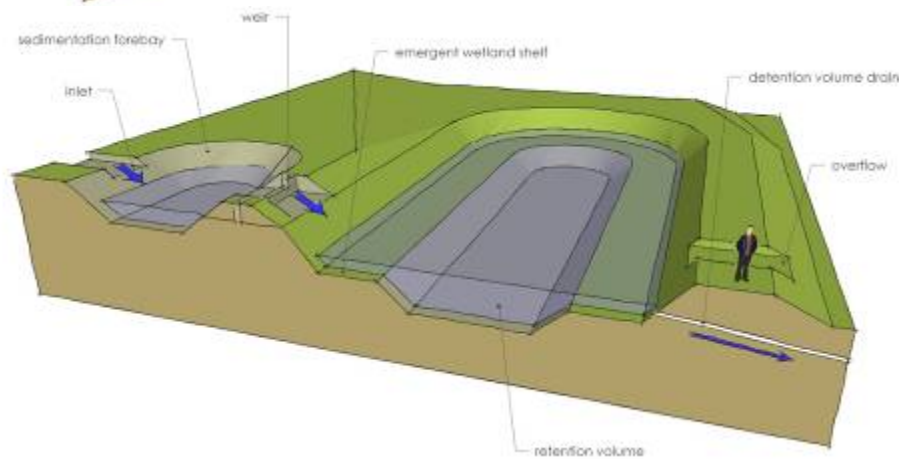
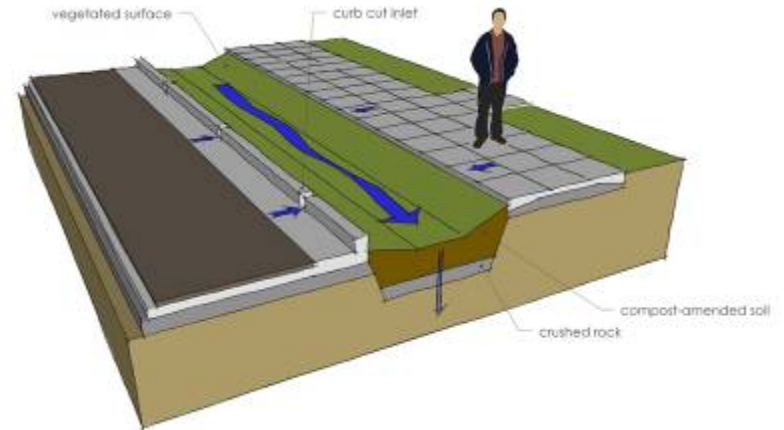
water





GREEN infrastructure





GREEN infrastructure

Route 51 South Hills Parkway AIA SDAT



Impacts of Stormwater

- *Flooding*
- *Flow Control - COS*
- *Water Quality*

Department of Ecology, WA State, November 2008

- 52 million pounds
 - oil and petroleum products
 - PCBs
 - phthalates
- 1 million pounds
 - toxic heavy metals such as copper, lead, and zinc





National Pollutant Discharge Elimination System (NPDES)

[Recent Additions](#) | [Contact Us](#) | [Print Version](#) Search NPDES: [GO](#)

[EPA Home](#) > [OW Home](#) > [QWM Home](#) > [NPDES Home](#) > [Managing Wet Weather with Green Infrastructure](#)

Basic Information

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Combined Sewer

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Managing Wet Weather with Green Infrastructure

OVERVIEW

What is Green Infrastructure?

Green infrastructure is an approach to wet weather management that is cost-effective, sustainable, and environmentally friendly. Green Infrastructure management approaches and technologies infiltrate, evapotranspire, capture and reuse stormwater to maintain or restore natural hydrologies. At the largest scale, the preservation and restoration of natural landscape features (such as forests, floodplains and wetlands) are critical components of green stormwater infrastructure. By protecting these ecologically sensitive areas, communities can improve water quality while providing wildlife habitat and opportunities for outdoor recreation. On a smaller scale, green infrastructure practices include rain gardens, porous pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting for non-potable uses such as toilet flushing and landscape irrigation.

Register for the [Managing Wet Weather with Green Infrastructure Workshop](#) scheduled for November 6-7, 2008 in Louisville, KY.



A green roof sits atop Ford's Premier Headquarters in Irvine, CA
Photo Credit: Roofscapes Inc.

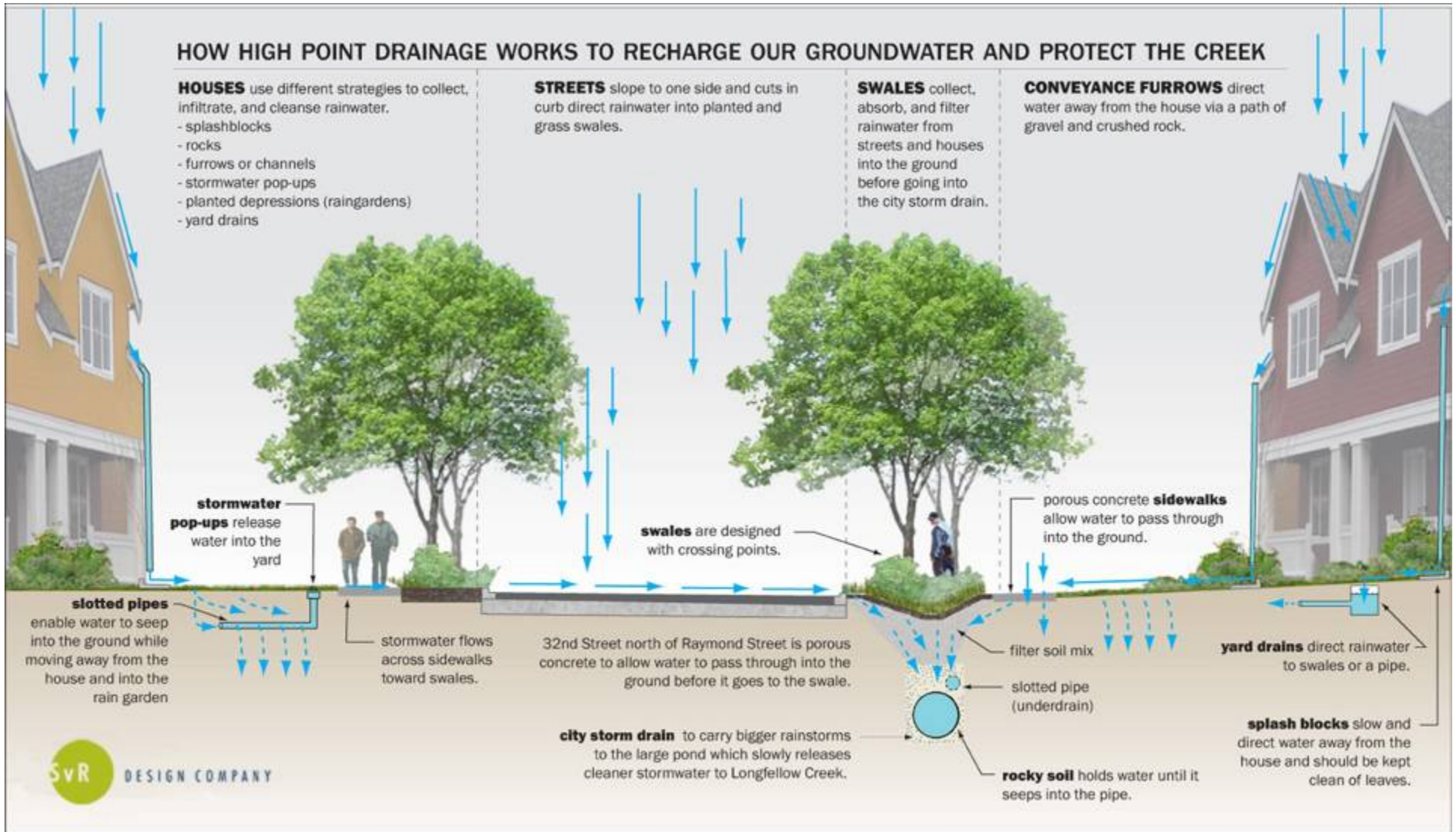
Our Green Infrastructure Partnership

Our Green Infrastructure Partnership

On April 10, 2007, EPA and four national organizations signed an

GREEN infrastructure





Green Infrastructure Streetscape



REVEAL MEASURE



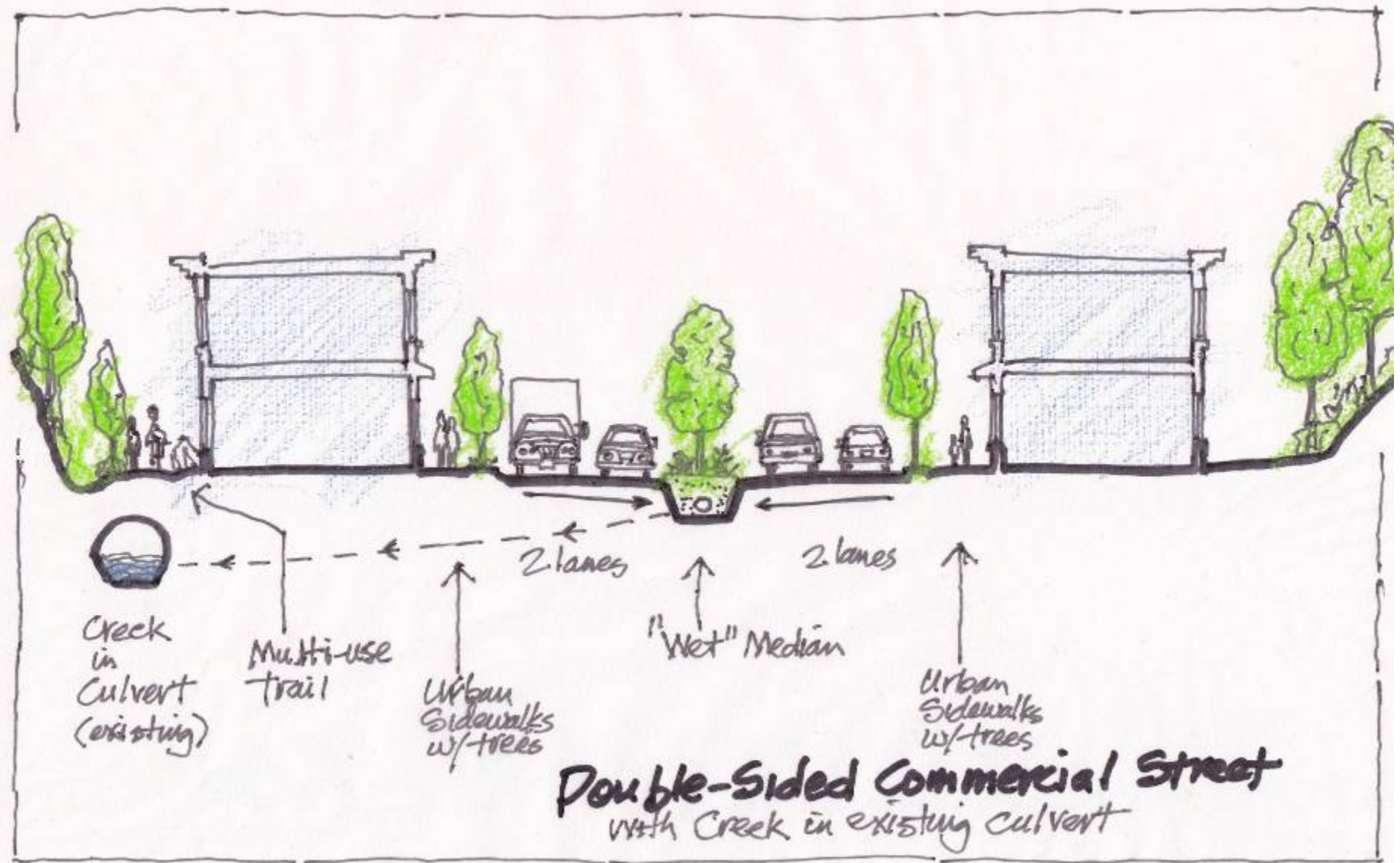
REVEAL MEASURE





Route 51 South Hills Parkway AIA SDAT







Thornton Creek Water Quality Channel





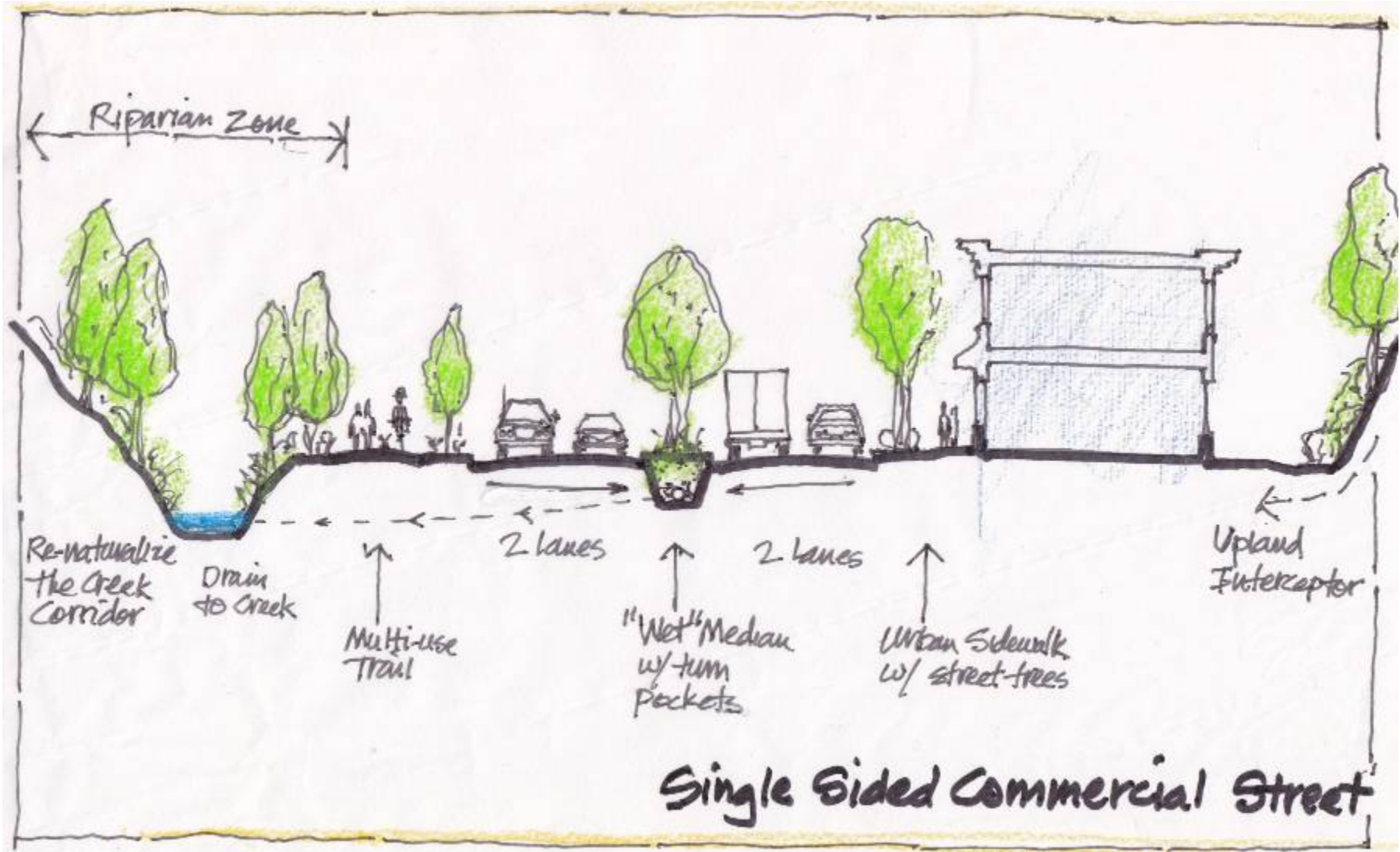
Thornton Creek Water Quality Channel





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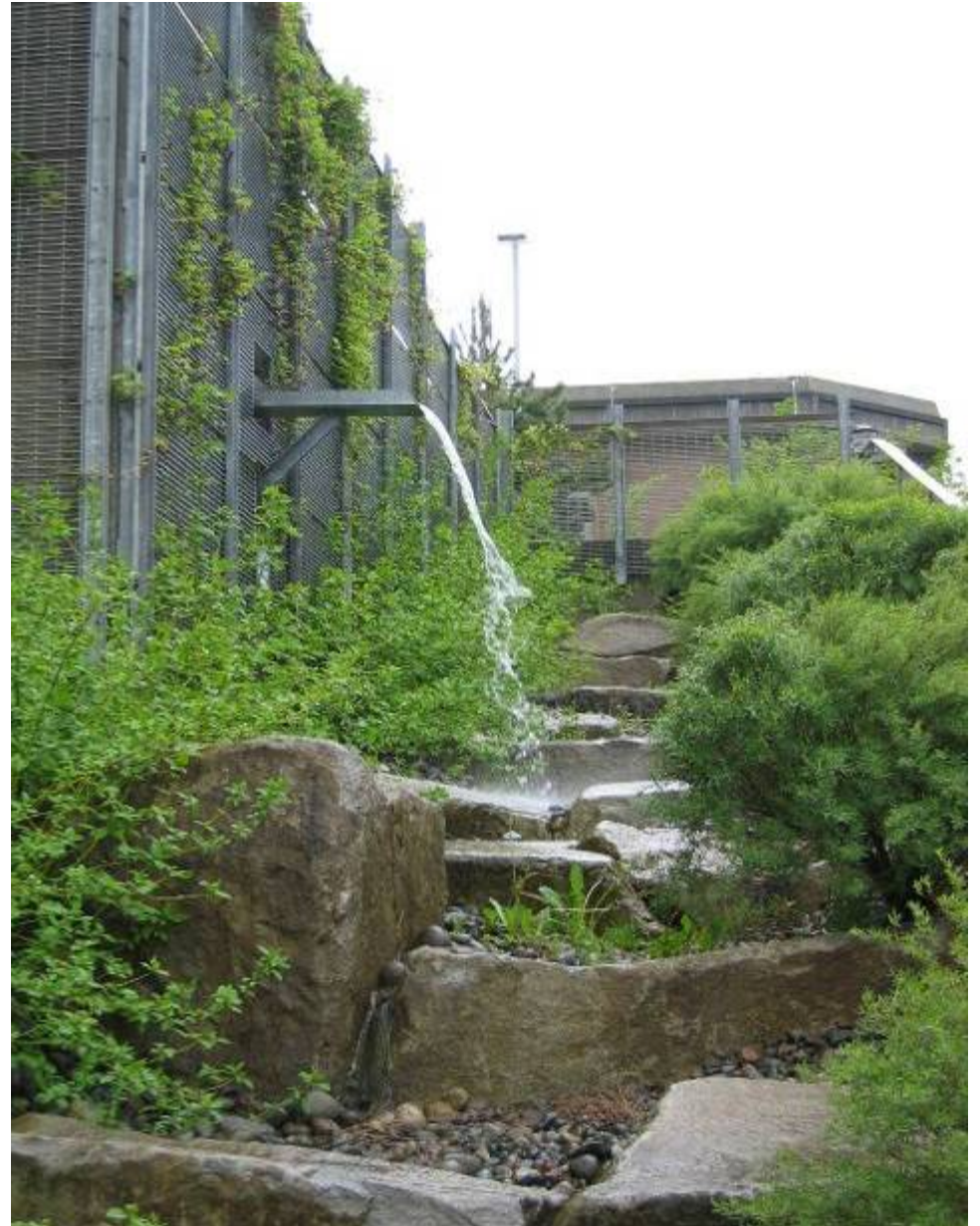




Rain Gardens and Bio-filtration Swales

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Disconnected Downspouts

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Green Roofs





Rainwater Harvesting





Growing Vine Street



Finally Green Infrastructure Can...

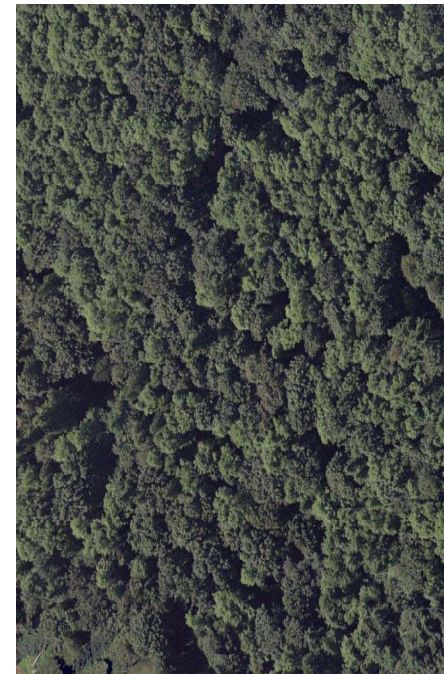
take this...



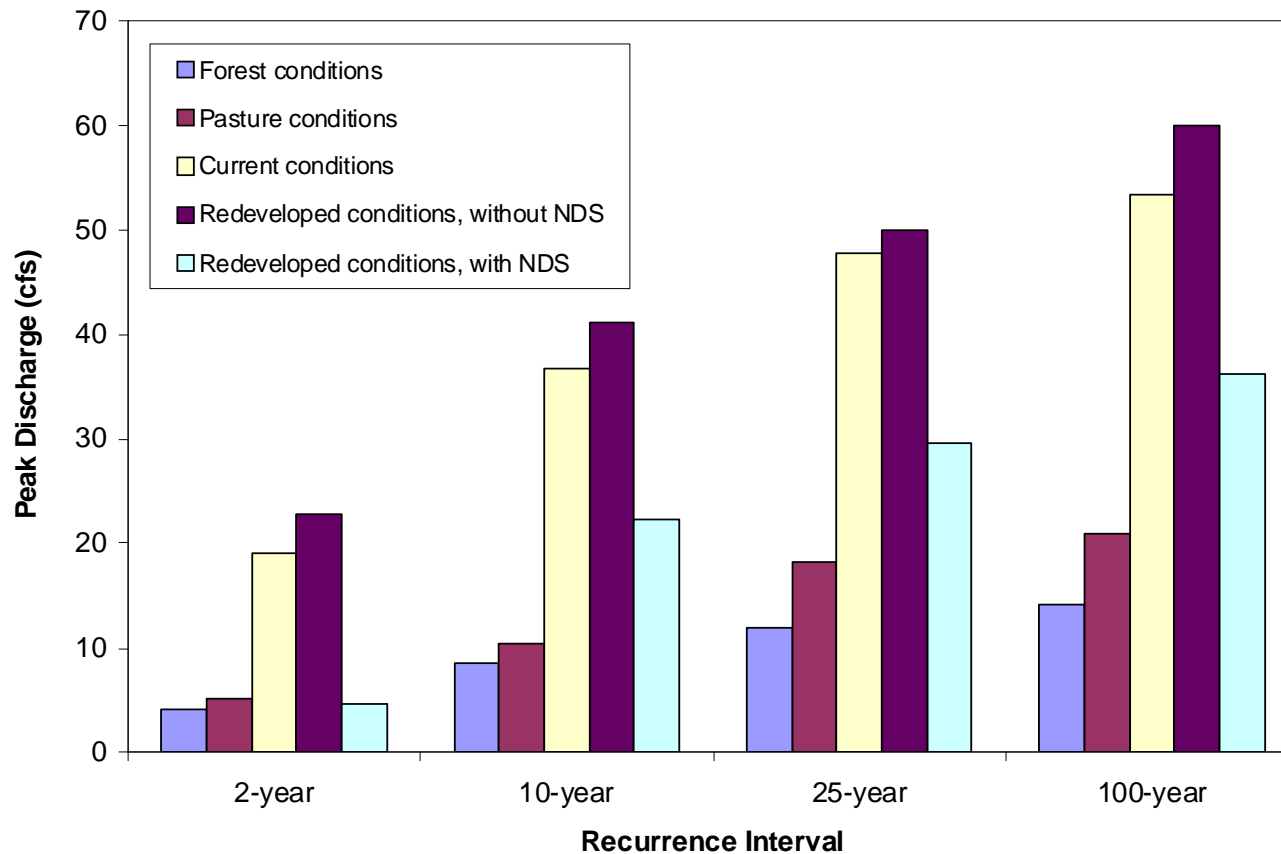
develop like
this and ...



perform like this

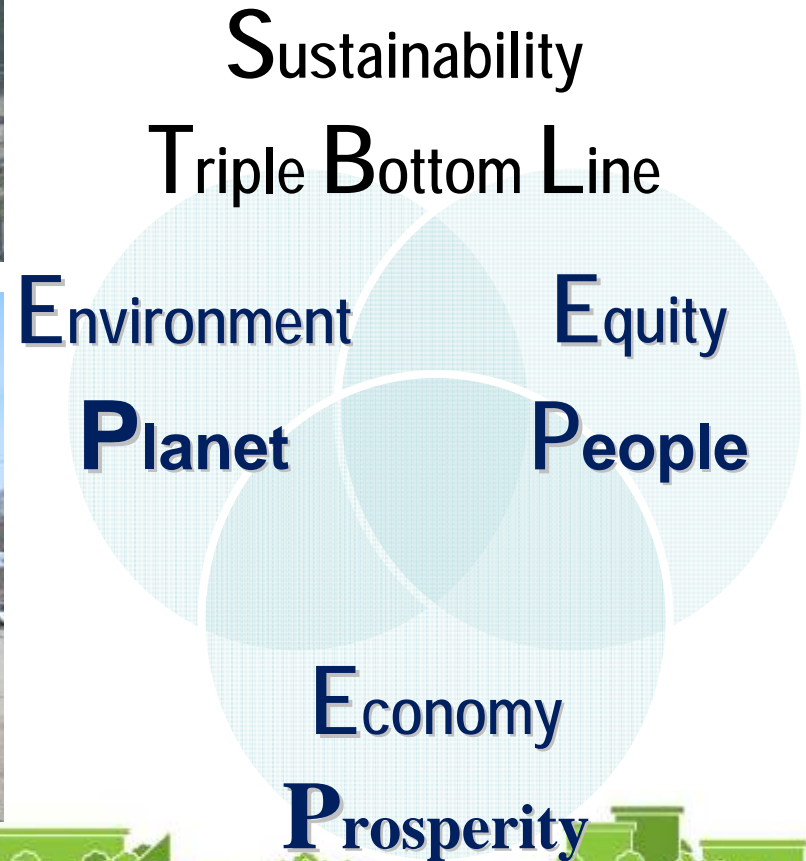


Comparison of Peak Flows



- **Urban Design and Streetscapes**

- Mark Hinshaw, FAIA, FAICP



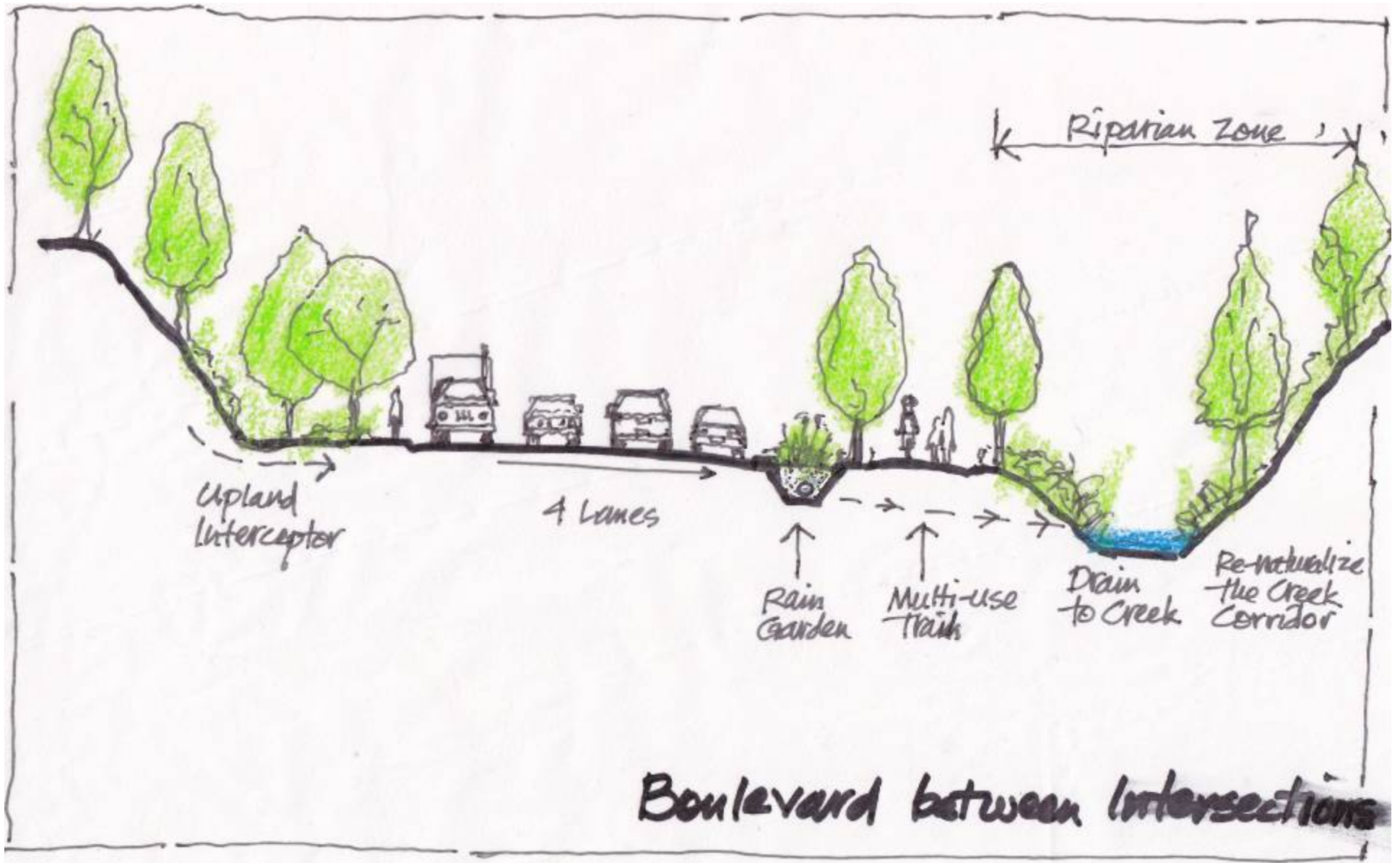
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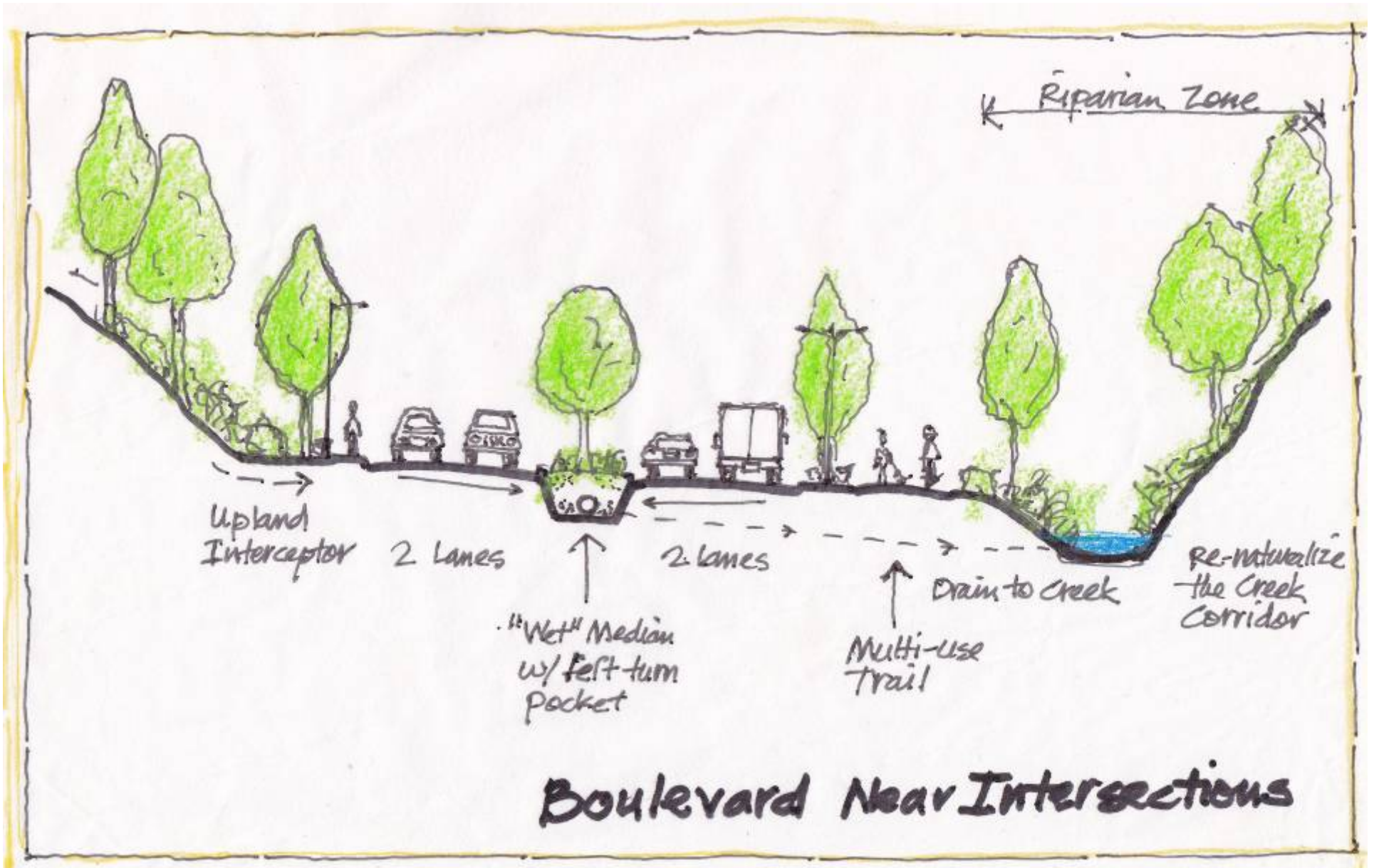


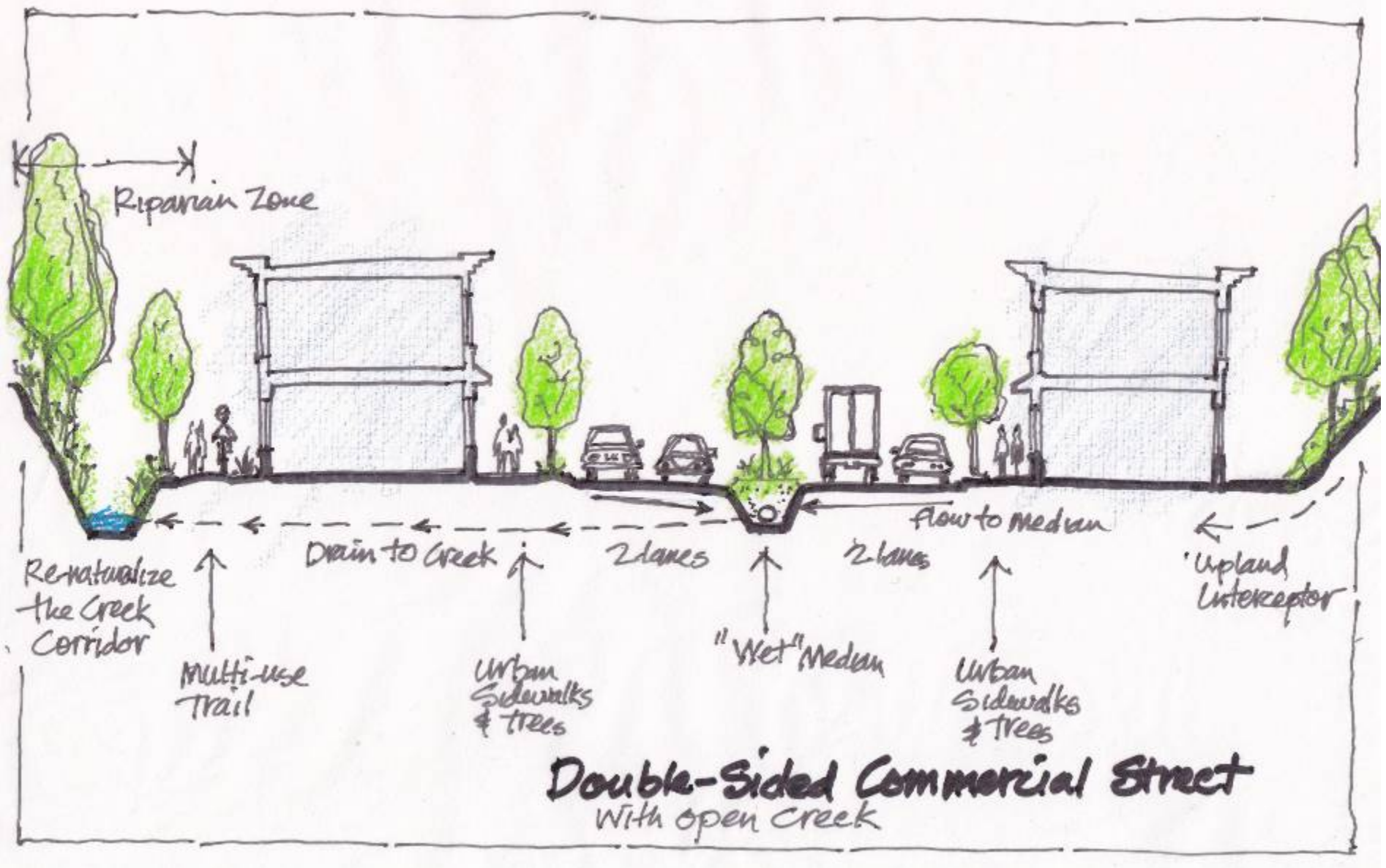
Streetscape

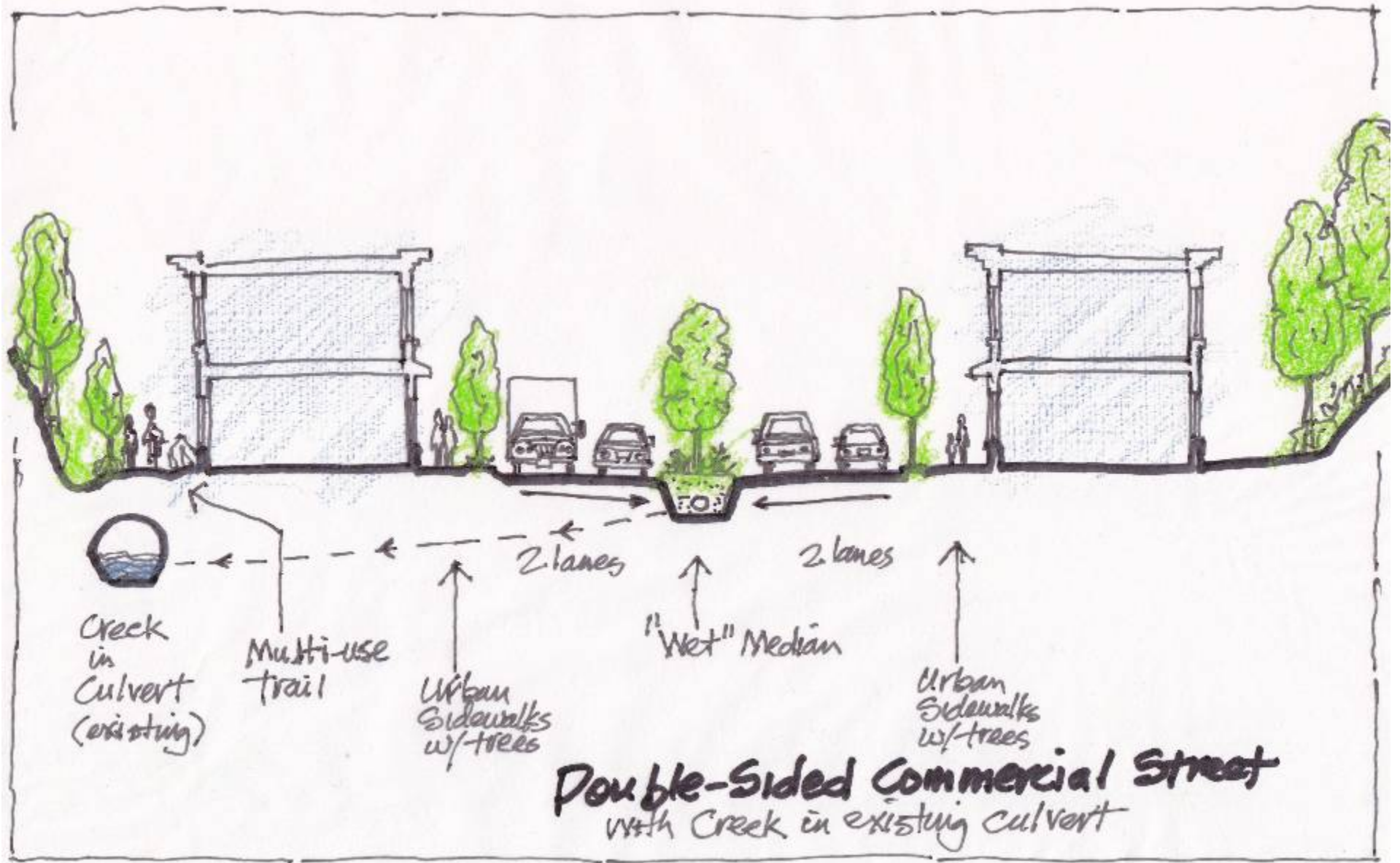
- Not “One Size Fits All”
- Tailored to each community
- Some common, unifying elements
- Sidewalks with real transit stops
- Street trees in planting strip along curb
- Bicycle parking
- Pedestrian scale lights
- Gateway Treatments

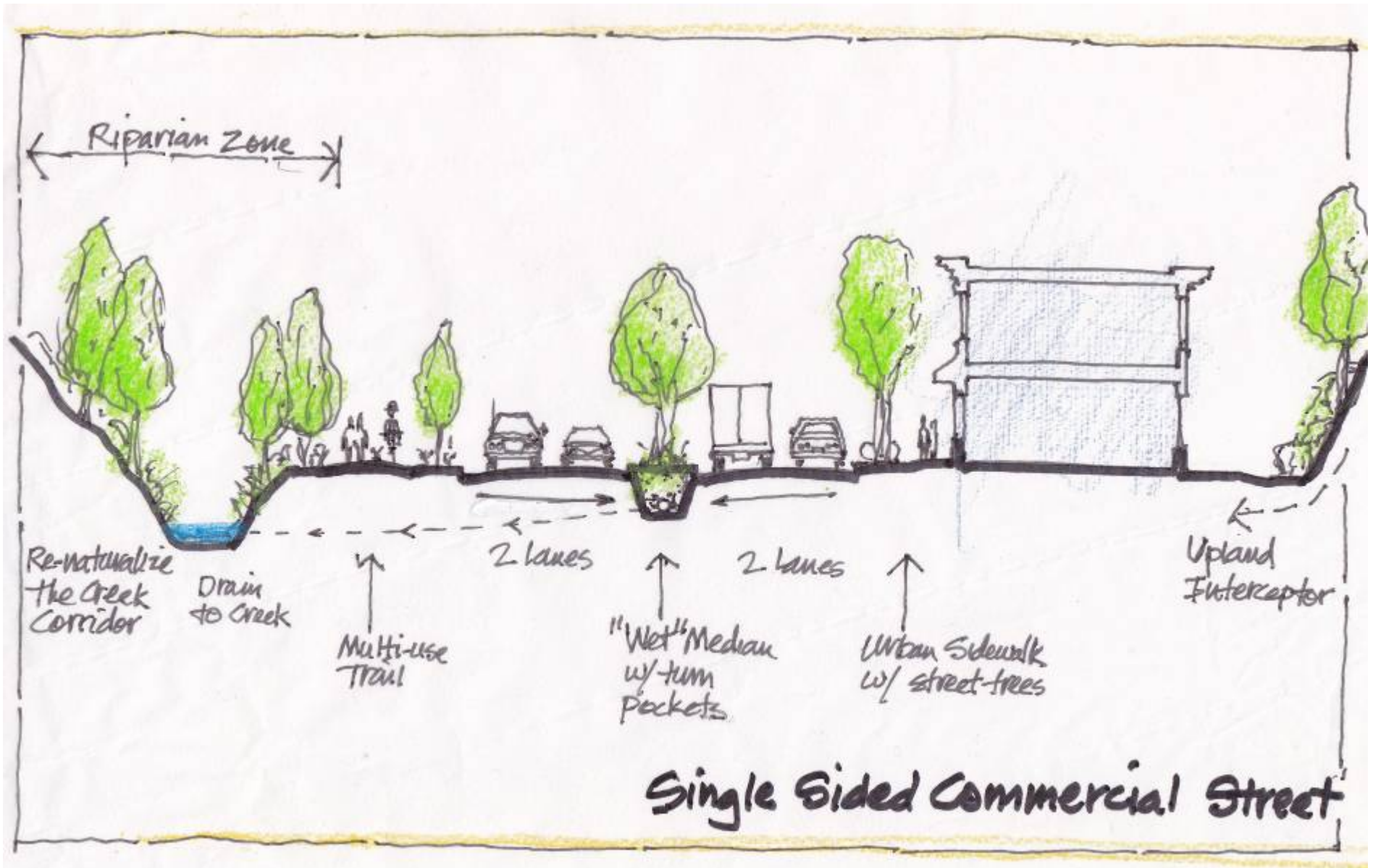


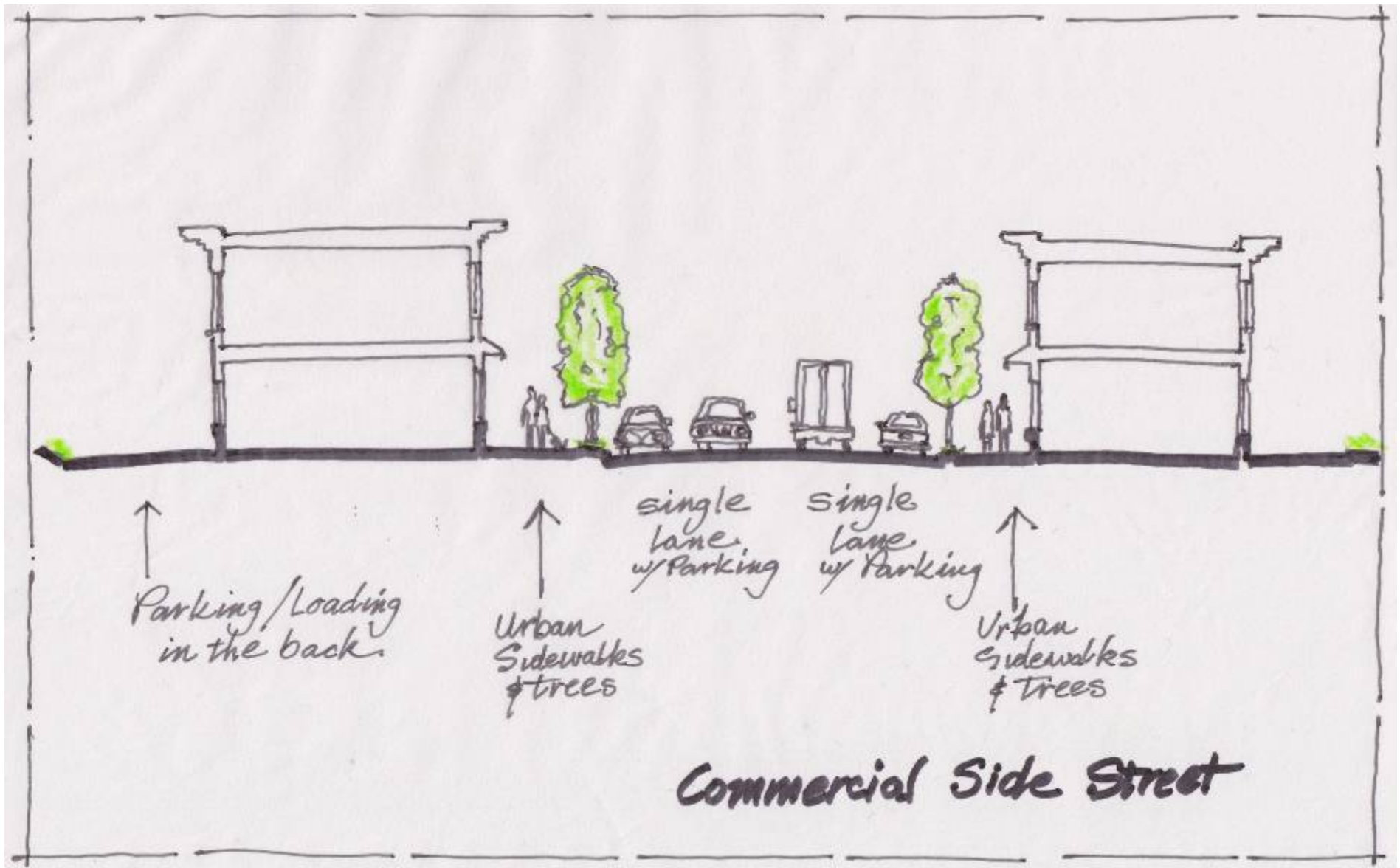










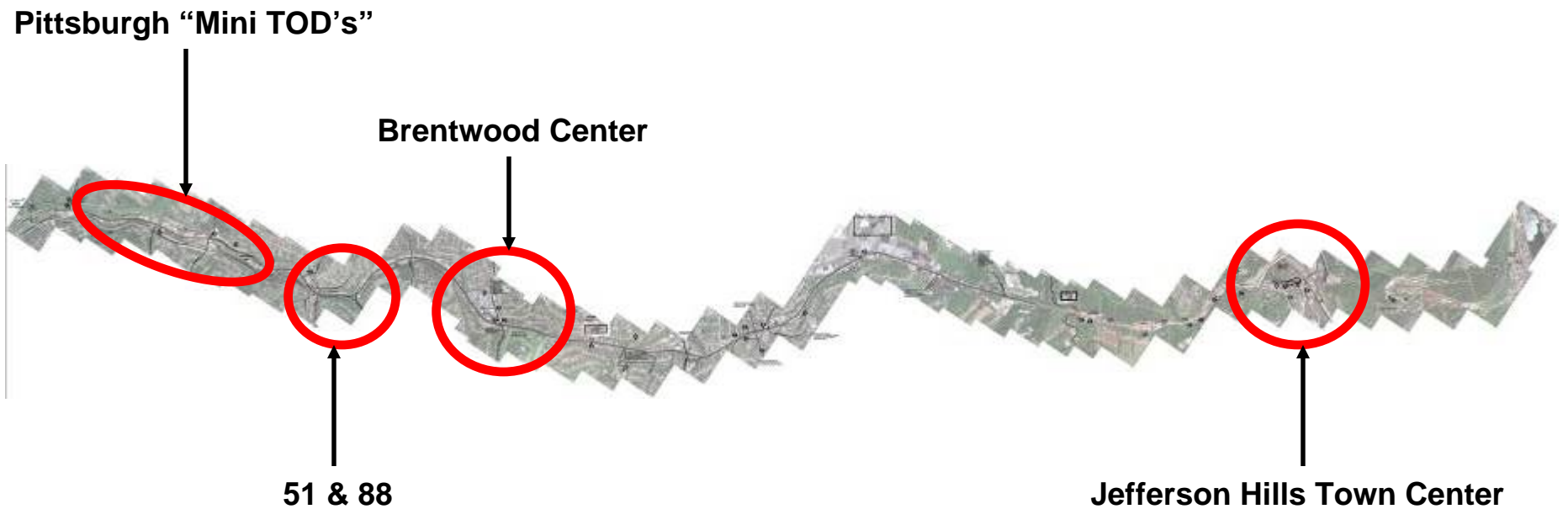


Community Nodes

- Jefferson Hills Town Center
- Brentwood Center
- 51 & 88
- Pittsburgh “Mini TOD’s”



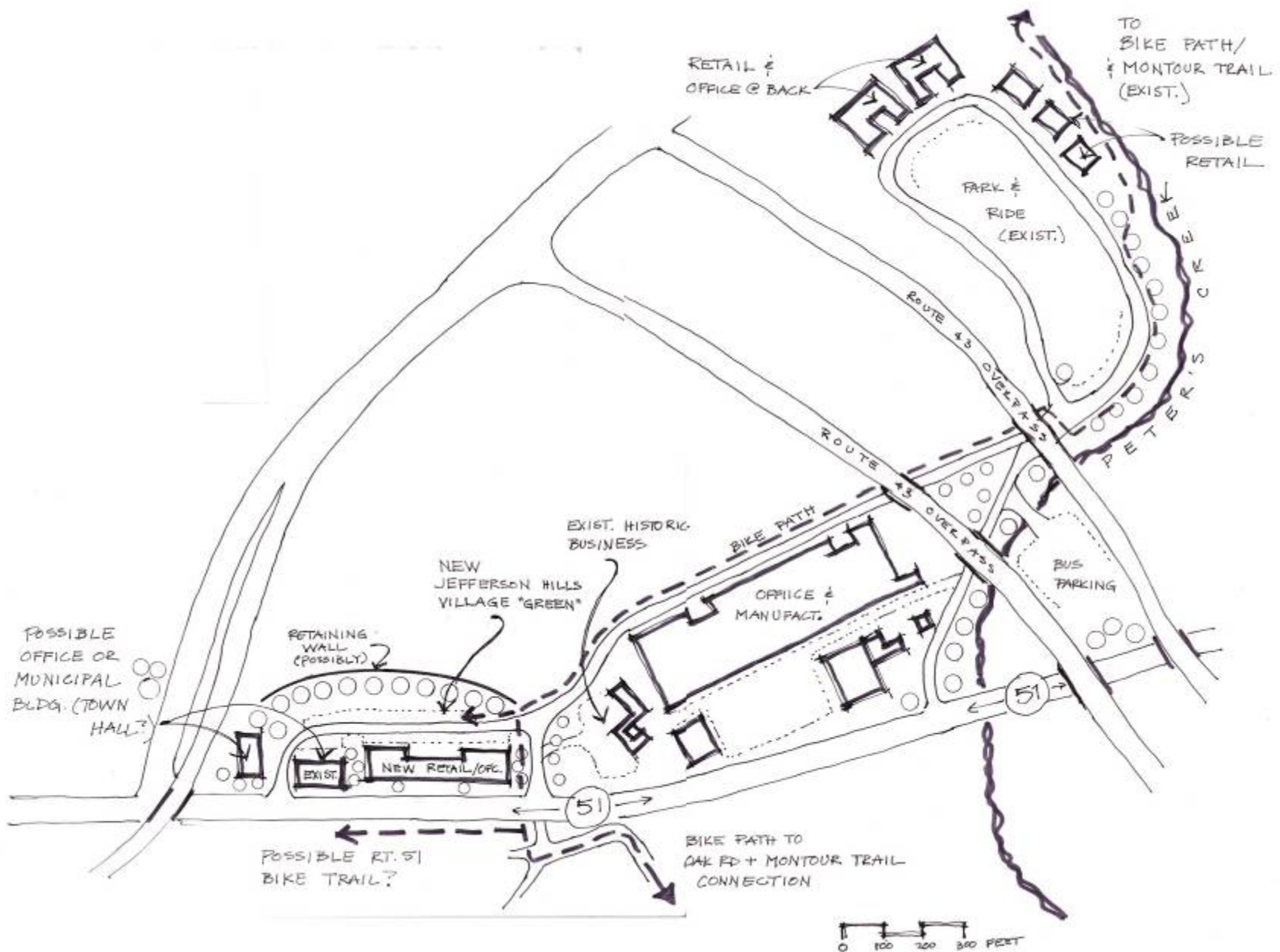
Community Nodes



Jefferson Hills Town Center

- New City Hall/Community Center
- Possible Adaptive re-use of Westinghouse
- Old House as centerpiece
- Surround Park & Ride with housing
- Integrate old & new
- Allow commuters single-zone fares





Route 51 South Hills Parkway AIA SDAT

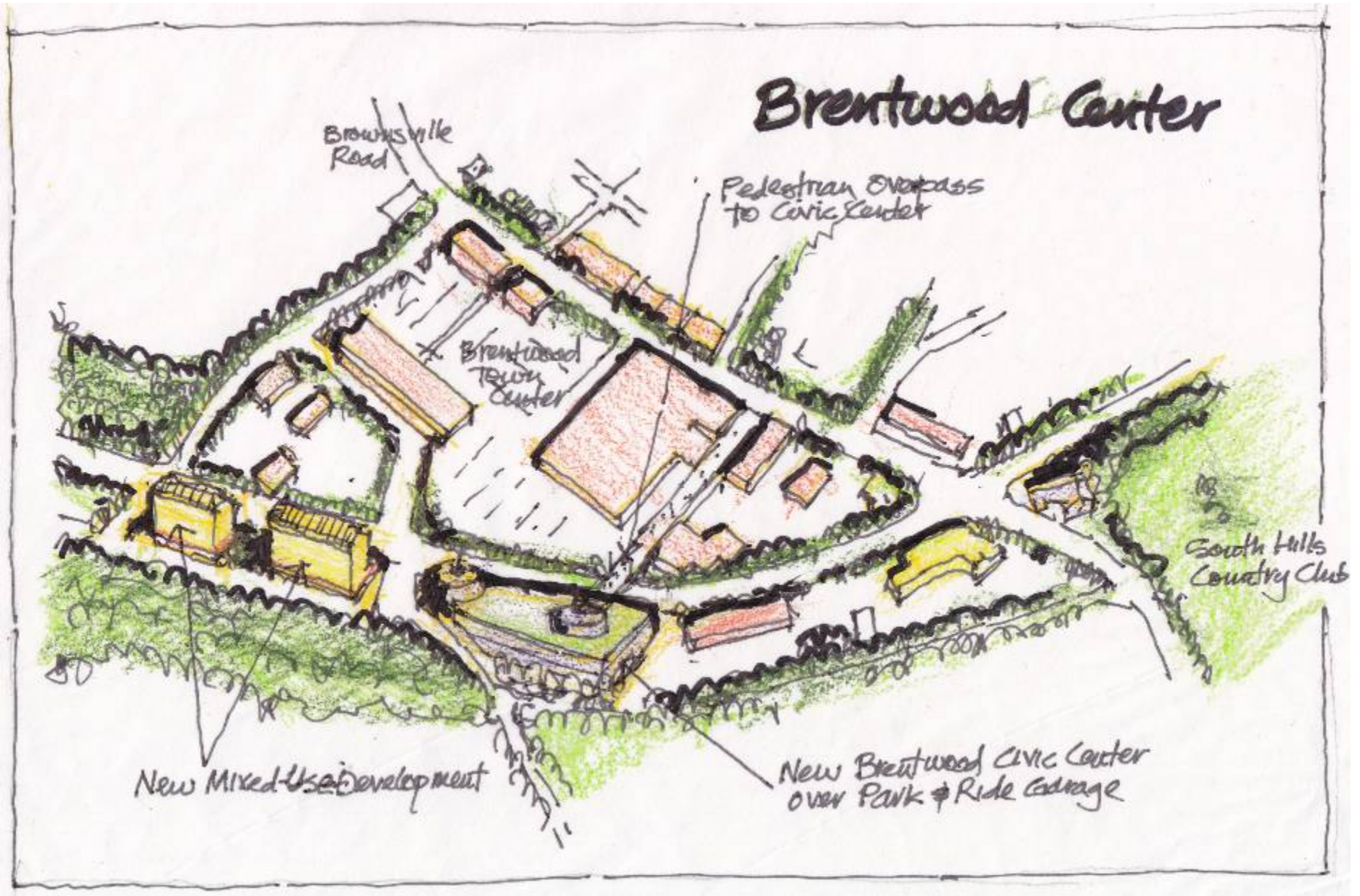




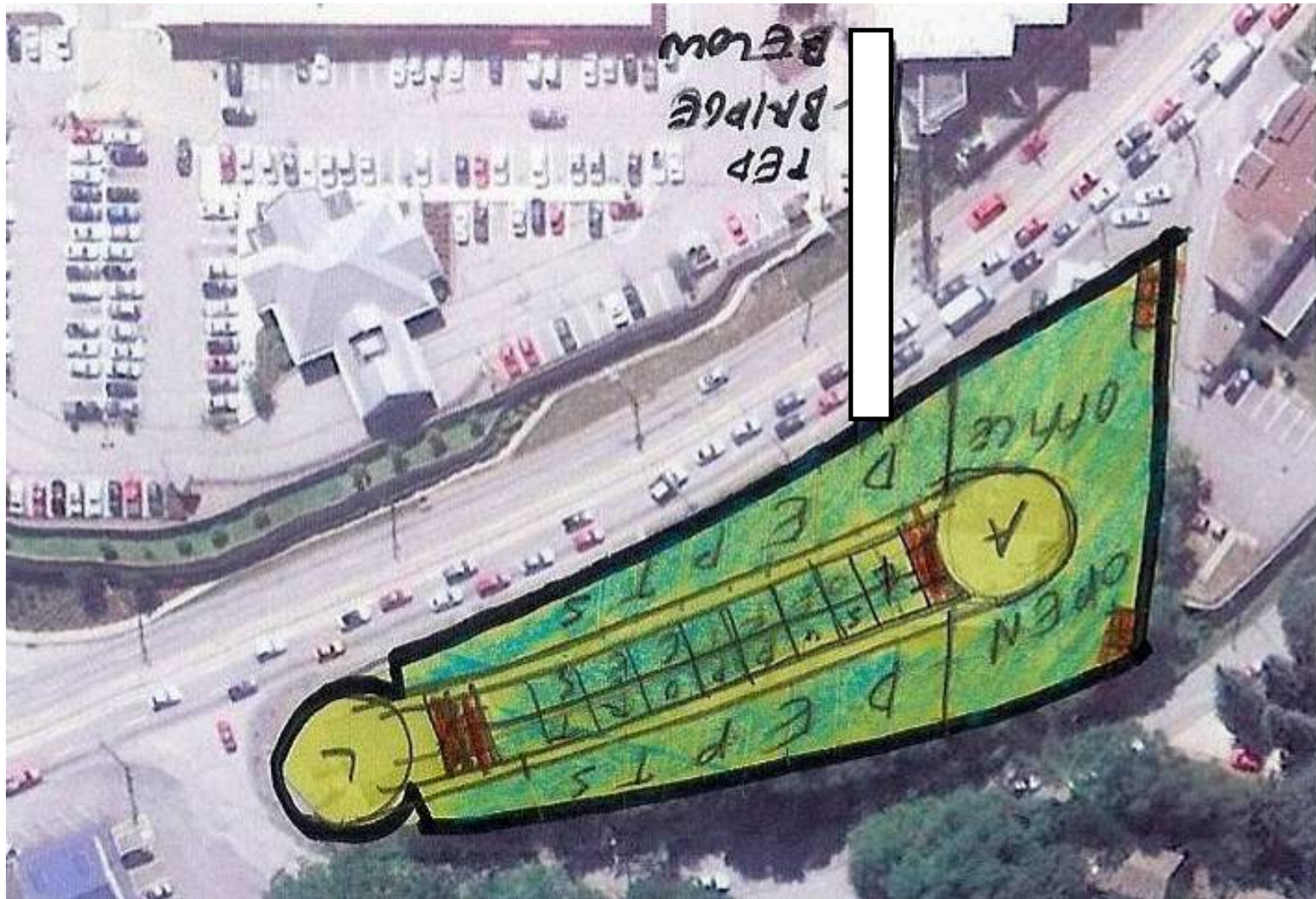
Brentwood Center

- New City Hall/Landmark
- Shared parking structure
- Pedestrian bridge to retail center
- Senior housing/mixed use mid-rises
- Urban sidewalks with street trees





Brentwood Civic Center & Park-and-Ride



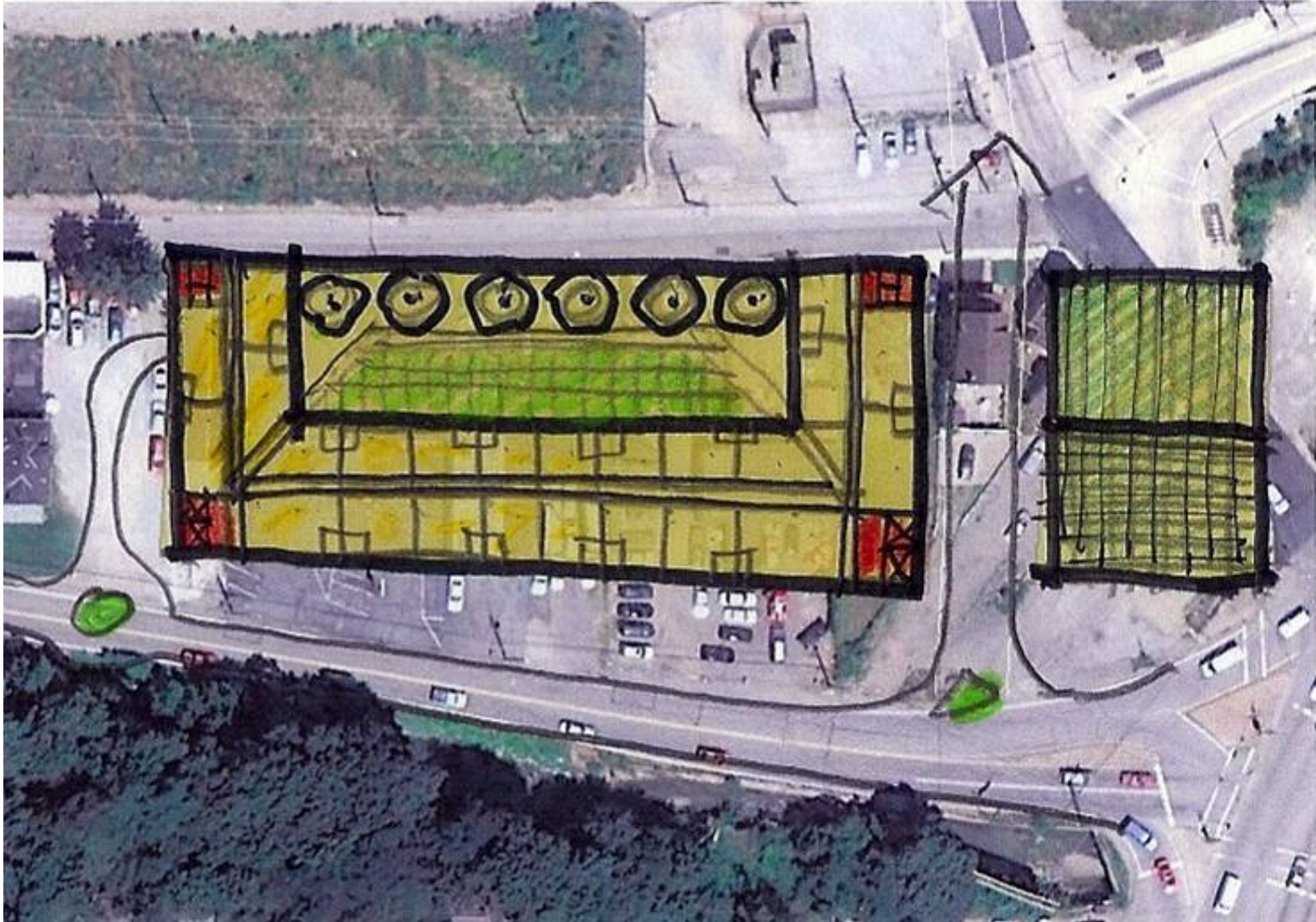


51 & 88 Transit-Oriented Development

- PennDOT “Jug handle” configuration
- Park & Ride
- Roundabout on Highway 88
- New side streets
- New bus/light rail station/extended busway
- Mini Main Street
- Mixed-use development



Overbrook TOD (Rte 51/88)



Pittsburgh “Mini TOD’s”

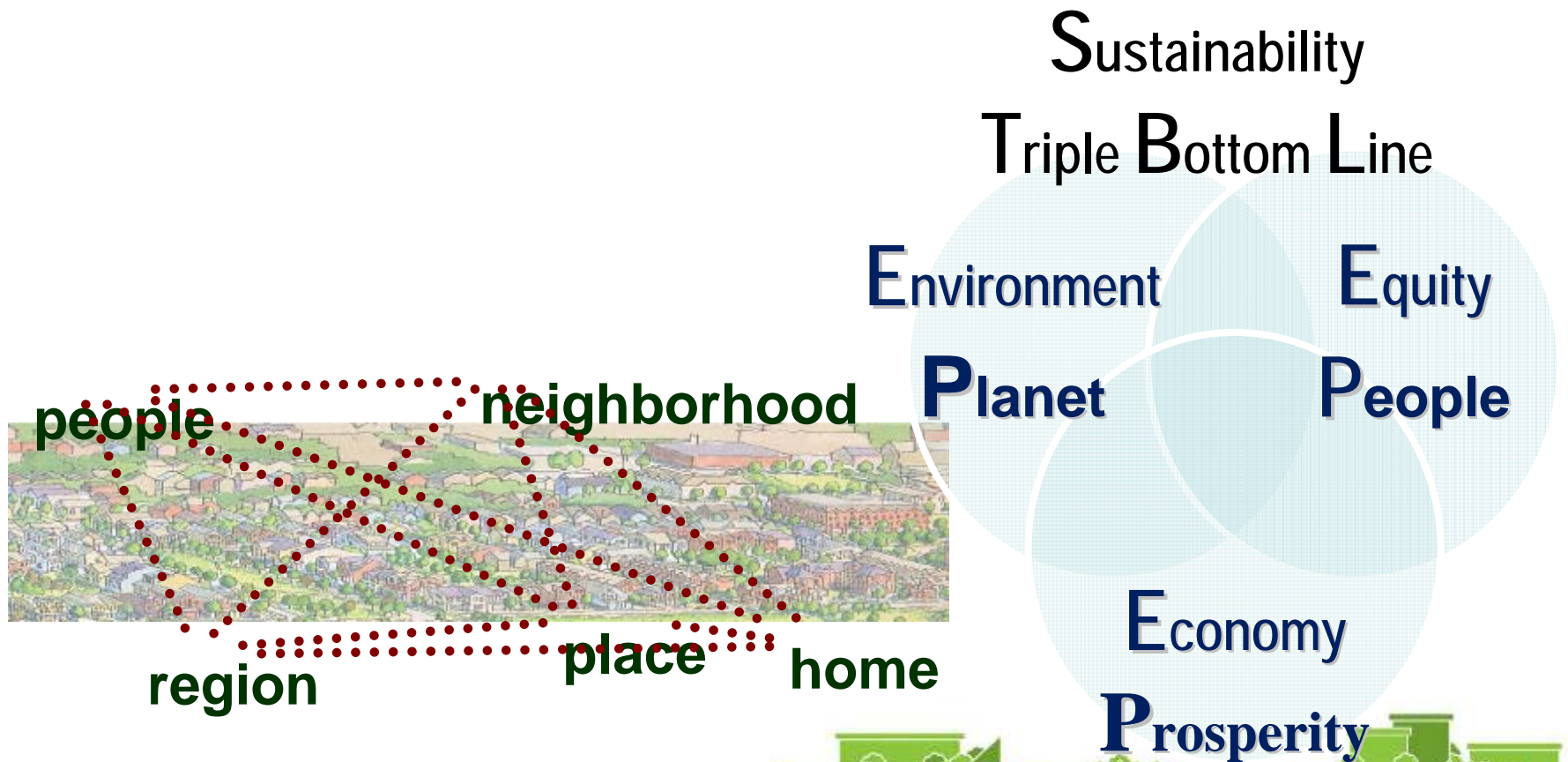
- Small infill development on hillside with tuck-under parking
- Near existing stations
- New or improved neighborhood connections
- Modest increase in density/sensitive infill





- **Land Use and Governance**

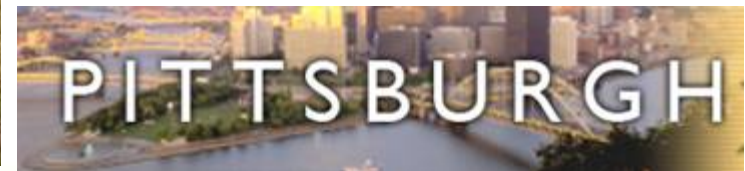
- Nathan A. West, AICP



Working Together

Leader/Champion

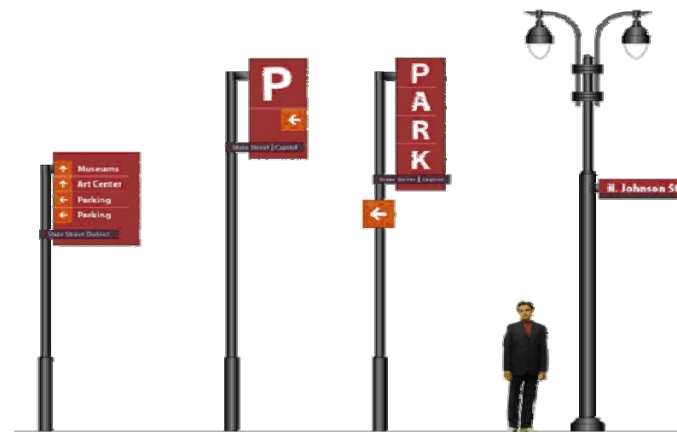
- One person or entity responsible for implementation
- Assigning tasks
- Orchestrating follow through
- Monitoring progress
- Applying for funding



Working Together

Intergovernmental/NGO Agreement

- Zoning
- Enforcement
- Signage
- Stormwater
- Commitment to seek funding
- Revenue Sharing



Working Together

Building Improvements

- Painting/power washing
- Façade improvements
- Empty storefront displays
- Enforce property maintenance code
- Litter control/community service workers



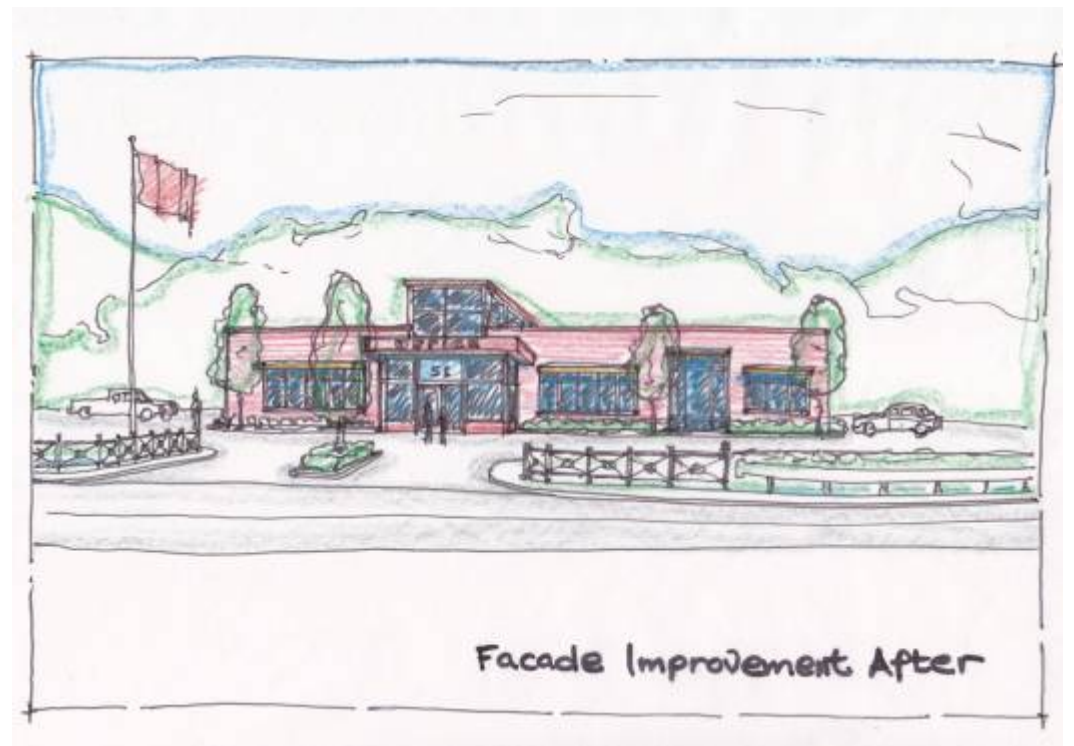
Working Together

Building Improvements



Working Together

Building Improvements



Working Together

Building Improvements



Working Together

Stormwater

- Stormwater utility
- Build incentives for retrofitting stormwater system
- Take advantage of NPDES II
- Setbacks from streams and steep banks
- Remove paving with incentives



Help clean up
our streams and
save yourself
some cash



Stormwater Incentives Program



Working Together

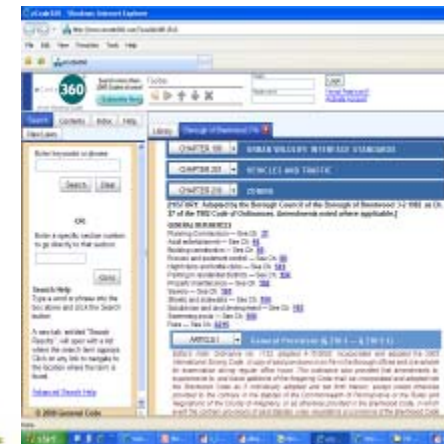
Permitting Process

- Overlay zone providing consistency across entire route
- Permitted use = admin approval
- Zoning code/maps online

Route
51
Overlay
Zone

PERMIT
APPROVED

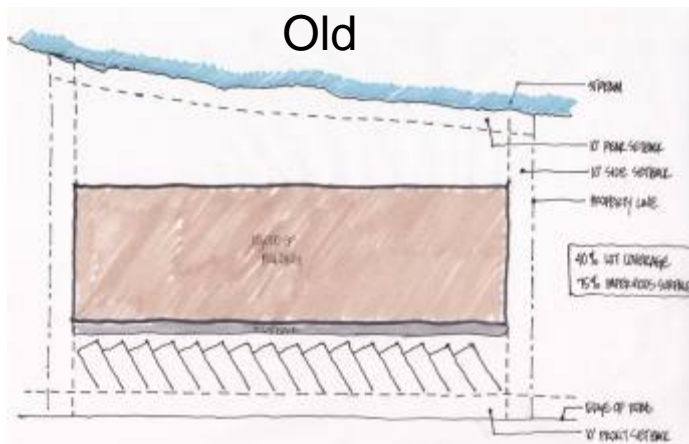
October 7, 2010
Route 51



Working Together

Site Design

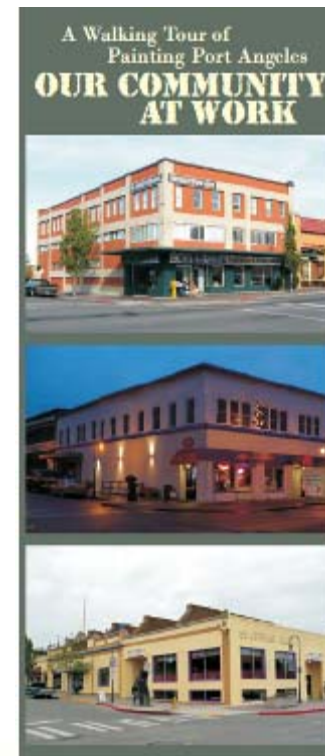
- Require min 4' landscape buffer & 6' sidewalk
- Eliminate setback reqs, min lot size/width
- Increase building height & lot coverage in exchange for less impervious surface
- Ensure benefits from increased thresholds



Working Together

Implementation

- Inspire public & private sector
- Outreach
- Immediate simple steps
- Prioritize recommendations
- Maintain momentum



Applications:
Applications are available from the City website or at City Hall, 307 E. 5th Street.

Along with their applications, applicants can be asked to provide detailed graphics of proposed improvements, property owner contact, & different time applications, estimated project budget and total expense, and final material responsibility of work.

Final award decisions made by the Planning Commission.

Department of Community and Economic Development

City of Port Angeles
Facade & Signage
Grant Program

Program Contact:
Roberta Korca
360.417.4804
rkorca@cityofpa.us



Rte 51 South Hills Parkway- Next Steps

1. Consensus and Partnerships

- Intergovernmental Agreements
- Economic Development South
- Western PA Conservancy & other land trusts
- **Leaders and champions**
- **Work with property owners**



Rte 51 South Hills Parkway- Next Steps

1. Consensus and Vision

2. Identify grants and funding- E.g.,

- US DOT TIGER (Transportation Investment Generating Economic Recovery)
- US HUD CDBG (through Allegheny County)
- Fed/State Transportation Improvement Program
- Congressional named projects
- PA combined sewer overflow grants & loans
- Sewer rates
- FEMA Hazard Mitigation
- Tax increment financing
- Stormwater utility
- FTA Multi-modal facility funding
- Private investment
- Municipal capital improvement program



Rte 51 South Hills Parkway- Next Steps

1. Consensus and Vision
2. Identify grants and funding
3. **Low hanging fruit**
 - Façade washing and painting
 - Village center gateway signage
 - Street tree planting (Western PA Conservancy)
 - Jefferson Hills Park & Ride to Zone I fare
 - Some zoning changes



Rte 51 South Hills Parkway- Next Steps

1. Consensus and Vision
2. Identify grants and funding
3. Low hanging fruit
4. Plans and regulatory measures
 - Year 1 to year 5
 - Early step: some zoning changes within one year



Rte 51 South Hills Parkway- Next Steps

1. Consensus and Vision
2. Identify grants and funding
3. Low hanging fruit
4. Plans and regulatory measures
- 5. Capital Improvements**
 - Year 1 to year 15
 - Early step: Work with property owners!!!
 - Early step: Reduce curb cut “free-for-all”



Special Thanks

Steering Committee

- Jen Bee, AIA (chair)
- Ruthann Omer, P.E. (chair)
- Anne Swager, Hon.AIA (chair)
- John Slater (chair)
- Joy Abbott
- George Zboyovsky, P.E.
- James E. Leventry
- Tim Little
- Howard J. Bednar
- Deborah A. Englert
- Allen Cohen
- Desiree Van Tassel with Rep. Chelsa Wagner's office
- Darcy Cleaver
- Dan Cessna
- Steve Bland

AIA Pittsburgh Volunteers

- Aenne Barchowsky, AIA
- Paul Levine, AIA
- David Julian Roth, AIA
- Jen Bee, AIA
- Jeff Light, AIA
- Tom Donoghue, AIA

Special Donors

- AIA Pittsburgh
- Whitehall Borough Building & Staff
- Port Authority of Allegheny Co.
- Baldwin Whitehall High School
- Tavern 51



Route 51 South Hills Parkway

1. Think Sustainability!
2. Re-purpose Route 51
3. Transit connections
4. Focus development on nodes
5. Live, play and work together

