

Downtown Two-Way Conversion

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AMERICAN
STRUCTUREPOINT
INC.

Overview

- Smart Streets Initiative
- Traffic Study
- Implementation Schedule

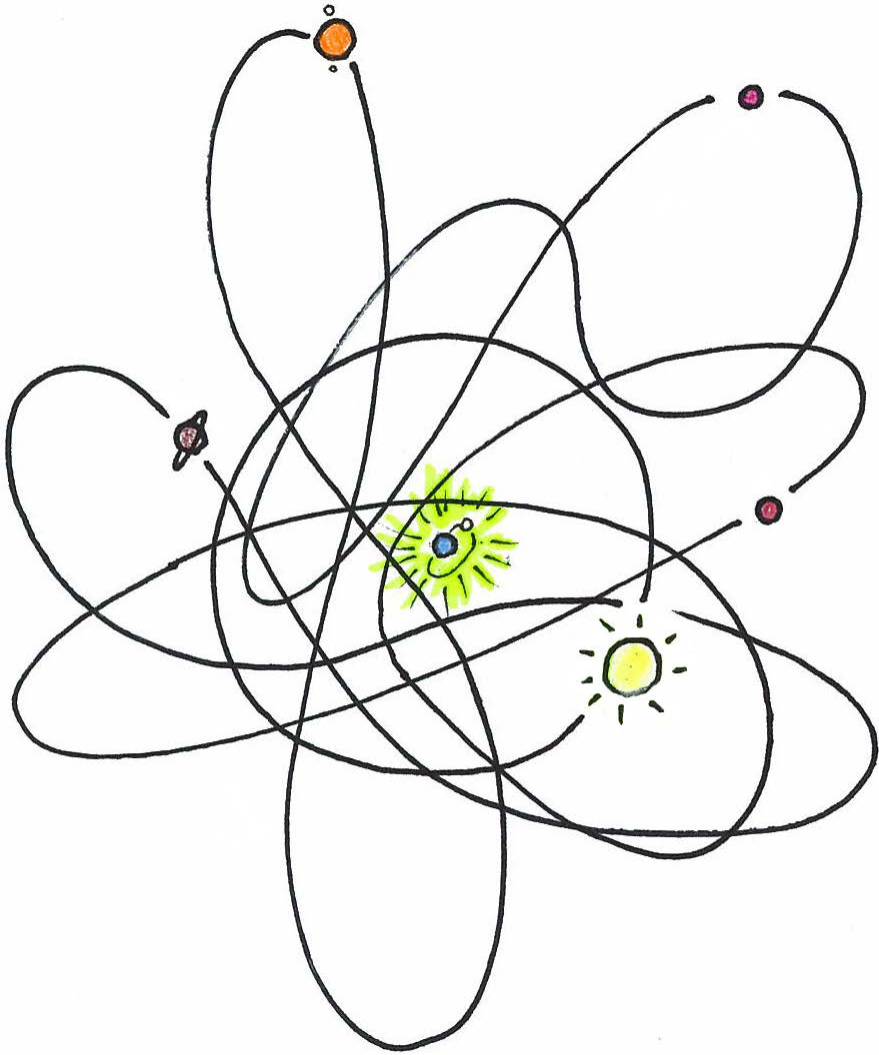


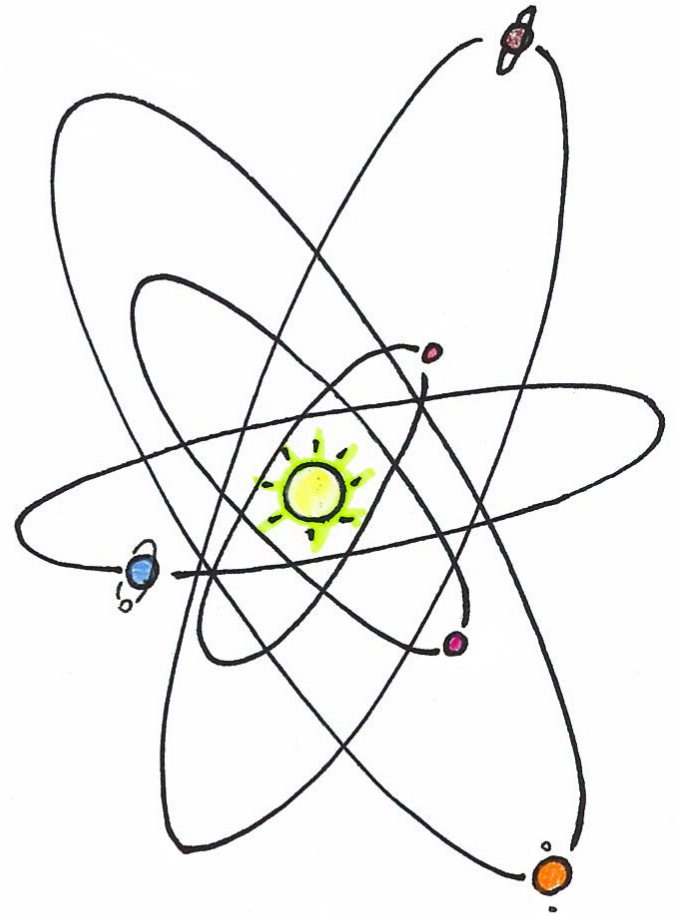
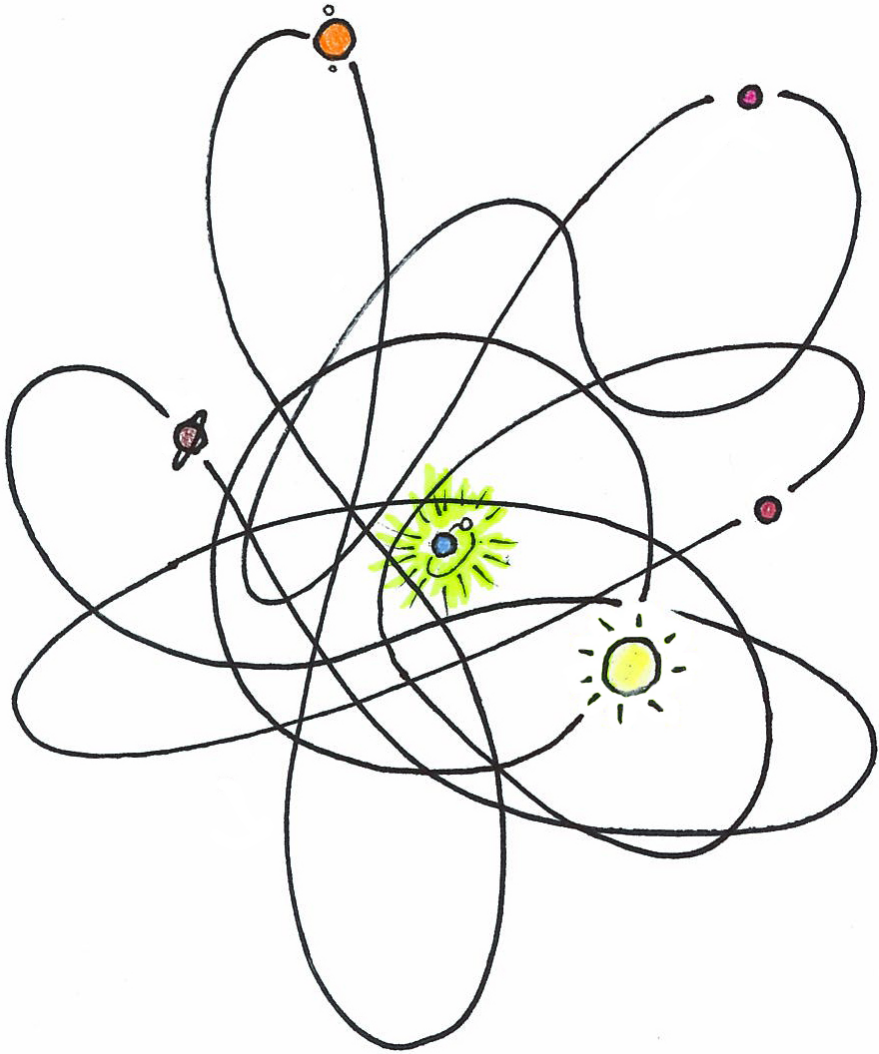
SMART STREETS

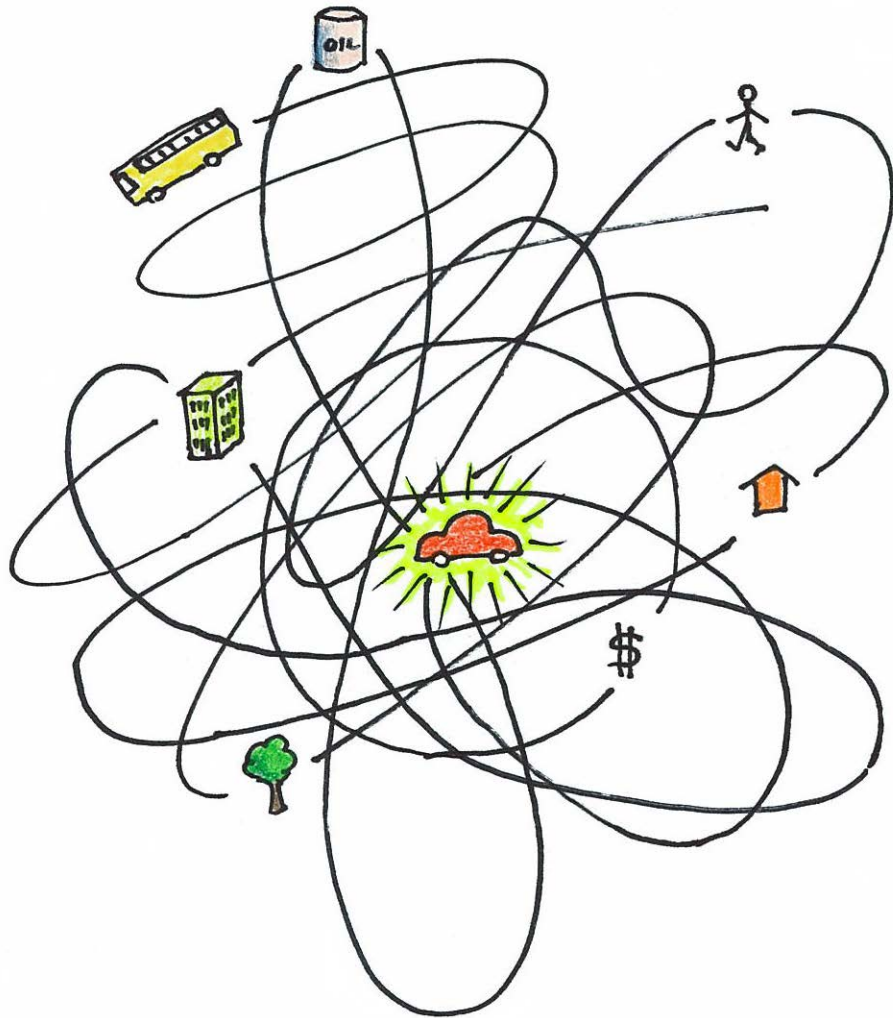
SOUTH BEND, INDIANA

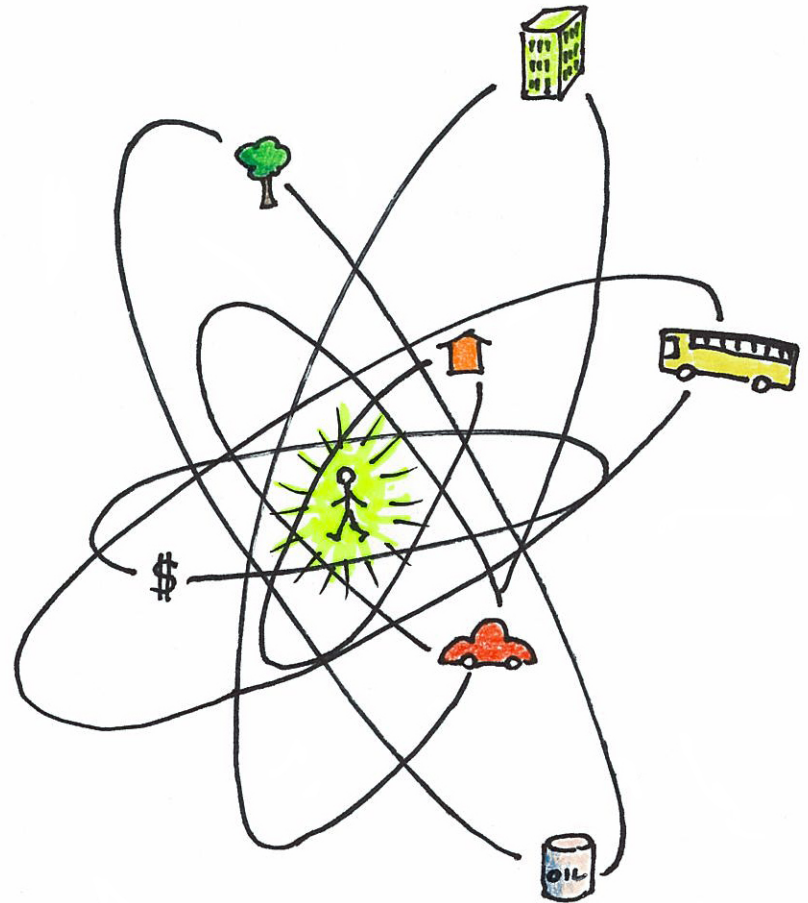
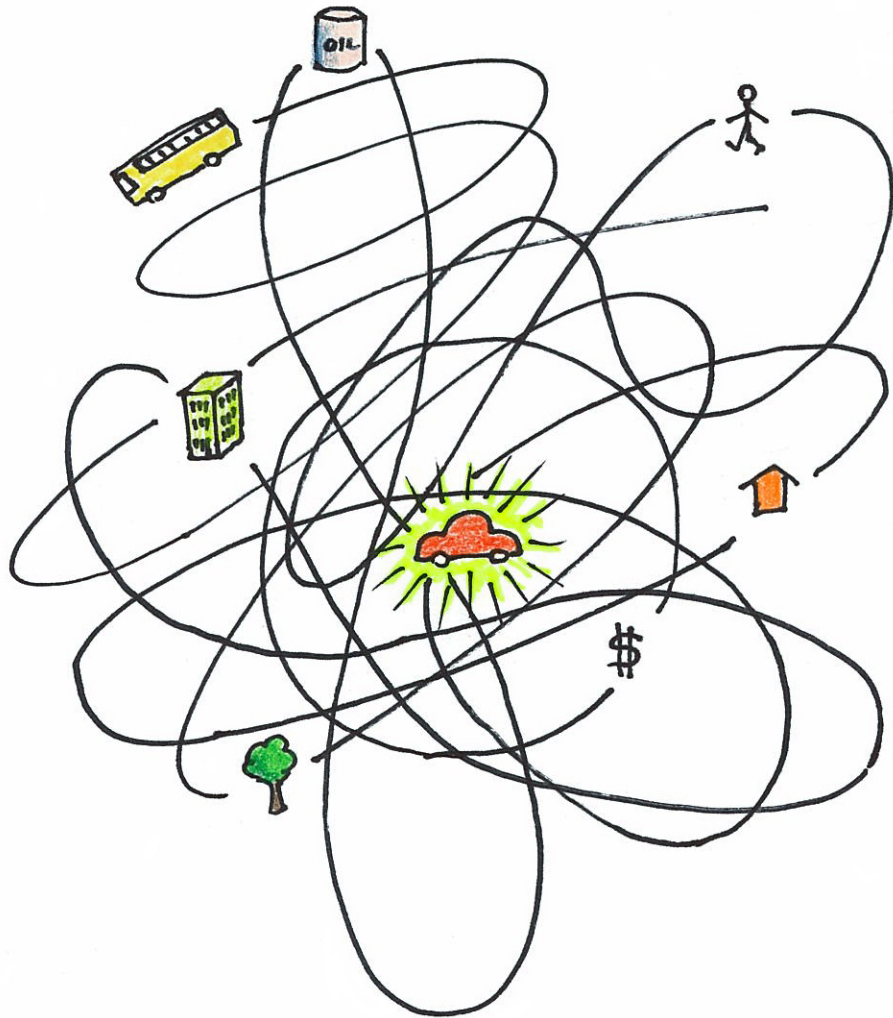


What is our Smart Streets Initiative?
“It’s redefining the role of streets”

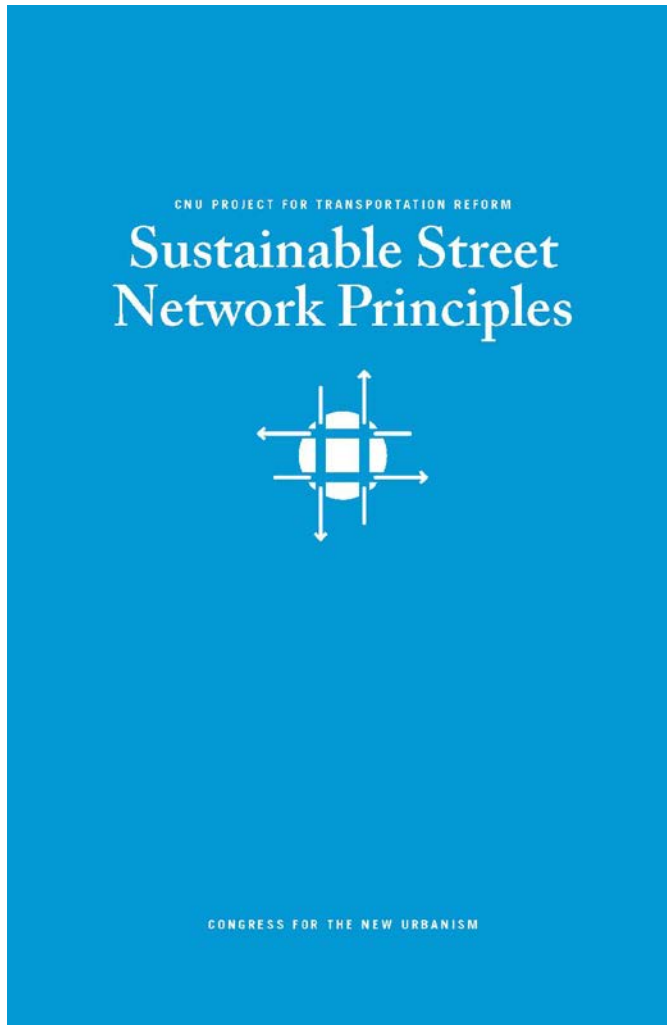








Principles

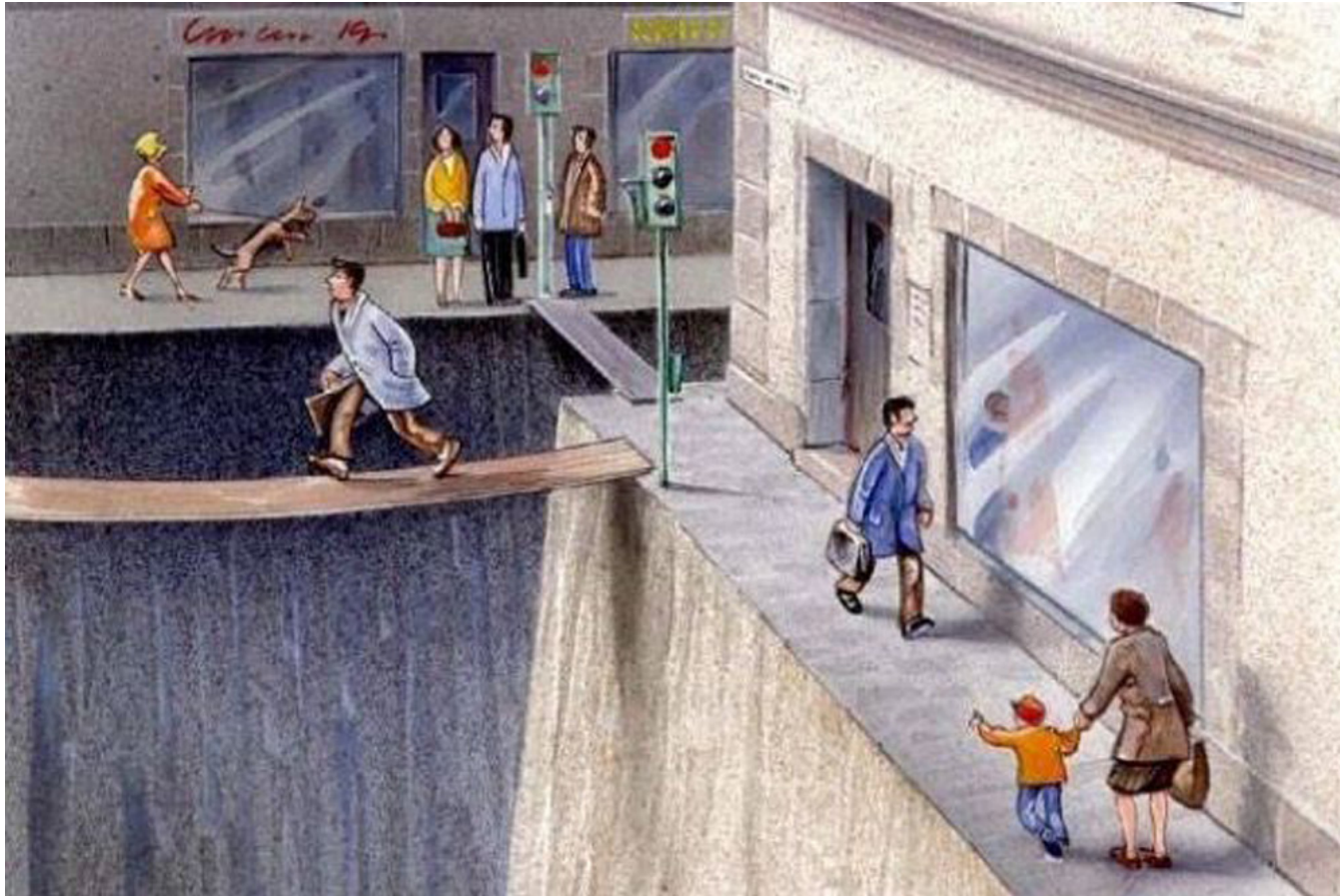


1. Create a street network that supports communities and places
2. Create a street network that attracts and sustains economic activity
3. Maximize transportation choice
4. Integrate the street network with natural systems
5. Respect the natural and built environment
6. Emphasize walking as the fundamental unit of the street network
7. Create harmony with other transportation networks

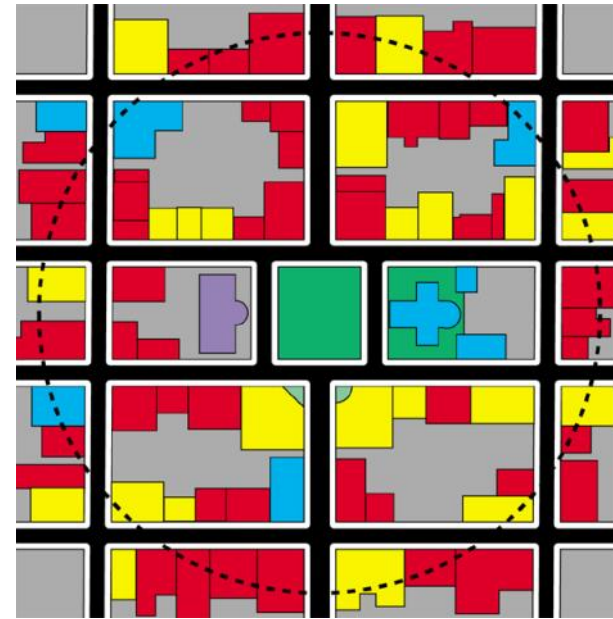
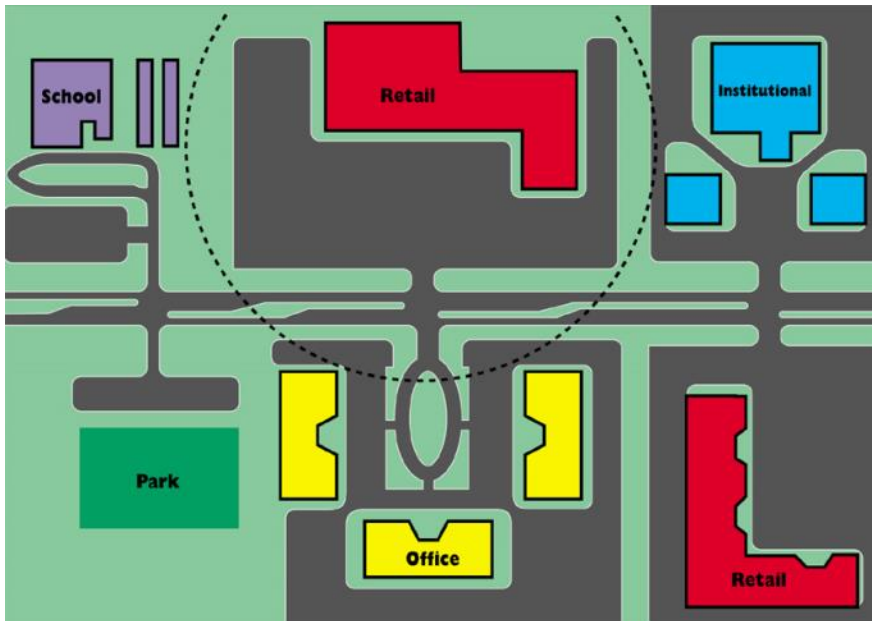
Why Smart Streets?

- Pedestrian Safety
- Circulation Network Connectivity
 - Reduces out of direction travel distances and motorist confusion
 - Benefits 'trips serving' by providing more direct routes to destinations
- Economic Vitality

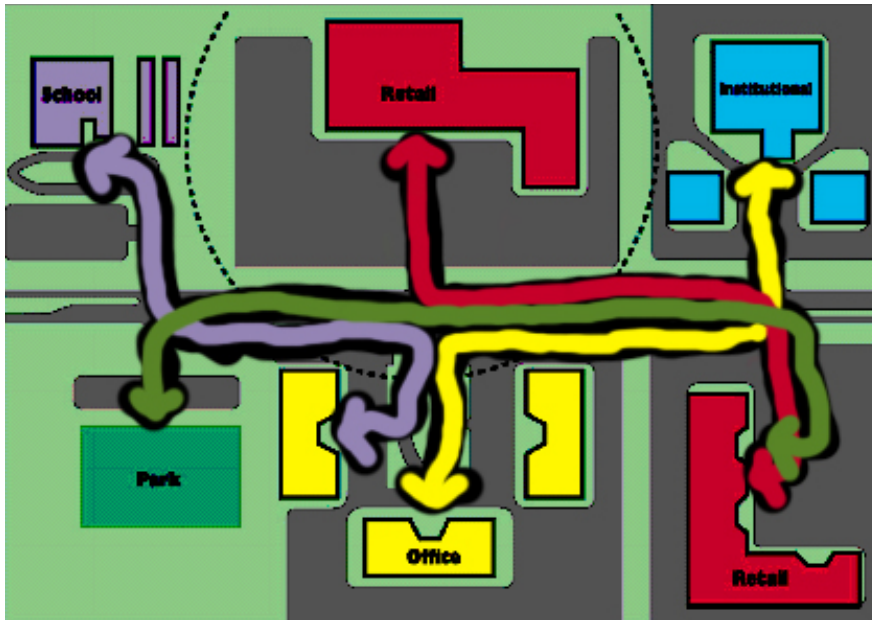
Pedestrian Safety



Network Connectivity



Network Connectivity



Vibrant urbanism is economic development

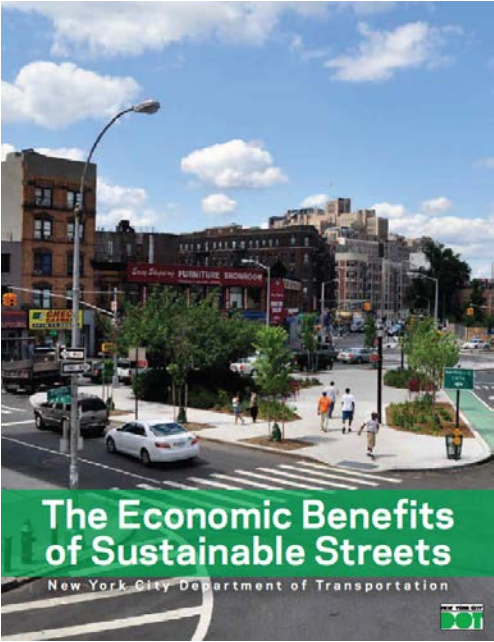
Dull, inert cities, it is true, do contain the seeds of their own destruction and little else.

But lively, diverse, intense cities contain the seeds of their own regeneration, with energy enough to carry over for problems and needs outside themselves.

Jane Jacobs
Death & Life of American Cities



ECONOMIC BENEFITS



Results:

Data from the Vanderbilt Avenue improvement site shows a sustained, dramatic trend of increasing economic performance. The faster pace of increases on Vanderbilt compared with comparison sites and the borough as a whole indicates that the street improvements contributed to this fast-paced growth in retail activity. The upward trend in combined sales began prior to the construction period and continued at a similar pace afterward. By the third year following the 2006 implementation, sales were more than double the baseline value.

Vanderbilt Avenue performed significantly better than two of its similar site comparisons and Brooklyn as a whole. While the economy of this neighborhood was already on the upswing, it is reasonable to conclude that the improved safety, shortened crossings, and new landscaping all combined to increase foot and bicycle traffic and enhance the sense of place, creating a virtuous cycle of retail development that was greater than it otherwise would have been. In addition, the jump in sales seen for the improvement site in 2007 (the baseline period) could be partly a result of the earlier traffic calming improvements implemented in 2006.



“It is important to note that based on the analysis presented here, the contribution that 21st-Century streets can make to local economies applies just as much to lower-income neighborhoods with “mom & pop” retail as to glitzier areas with sky-high rents. Better streets provide benefits to businesses in all types of neighborhoods, from the central business district to modest retail strips in residential areas.”

Improvement Site	Comparison Sites
Vanderbilt Av. (Starting to Dean)	Flatbush (Starting to Bergen)
	7th Ave. (Union to Flatbush)
	Washington (Dean to Lincoln)

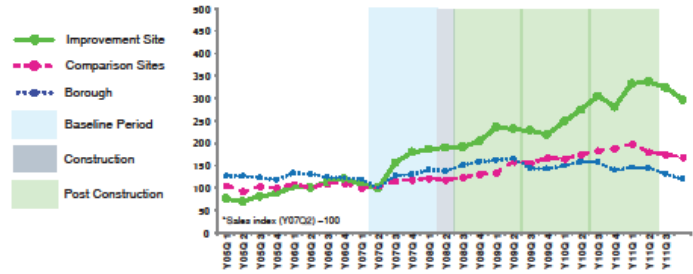
Area	Baseline Quarterly Sales	Δ Sales Post-Improvement		
Improvement Site		1st Year	2nd Year	3rd Year
Vanderbilt	\$ 894,673	39%	56%	102%
Borough				
Brooklyn	\$ 982,413,239	27%	19%	18%
Neighborhood Comparisons				
Average	\$ 1,713,174	19%	46%	64%
Flatbush	\$ 2,191,880	27%	32%	51%
7th Ave	\$ 2,176,027	12%	35%	21%
Washington	\$ 771,616	19%	70%	120%

Summary:

An earlier traffic calming project set the stage for further improvements. Pedestrian refuges at intersections, tree lined medians, dedicated bike lanes and streetscape and curbside management upgrades: all combined to support the growing retail environment along the Vanderbilt Avenue corridor. The improvement site outperformed all the neighborhood comparison sites and the borough.



Combined Sales : Improvement Sites vs. Comparisons Sites - Vanderbilt Avenue

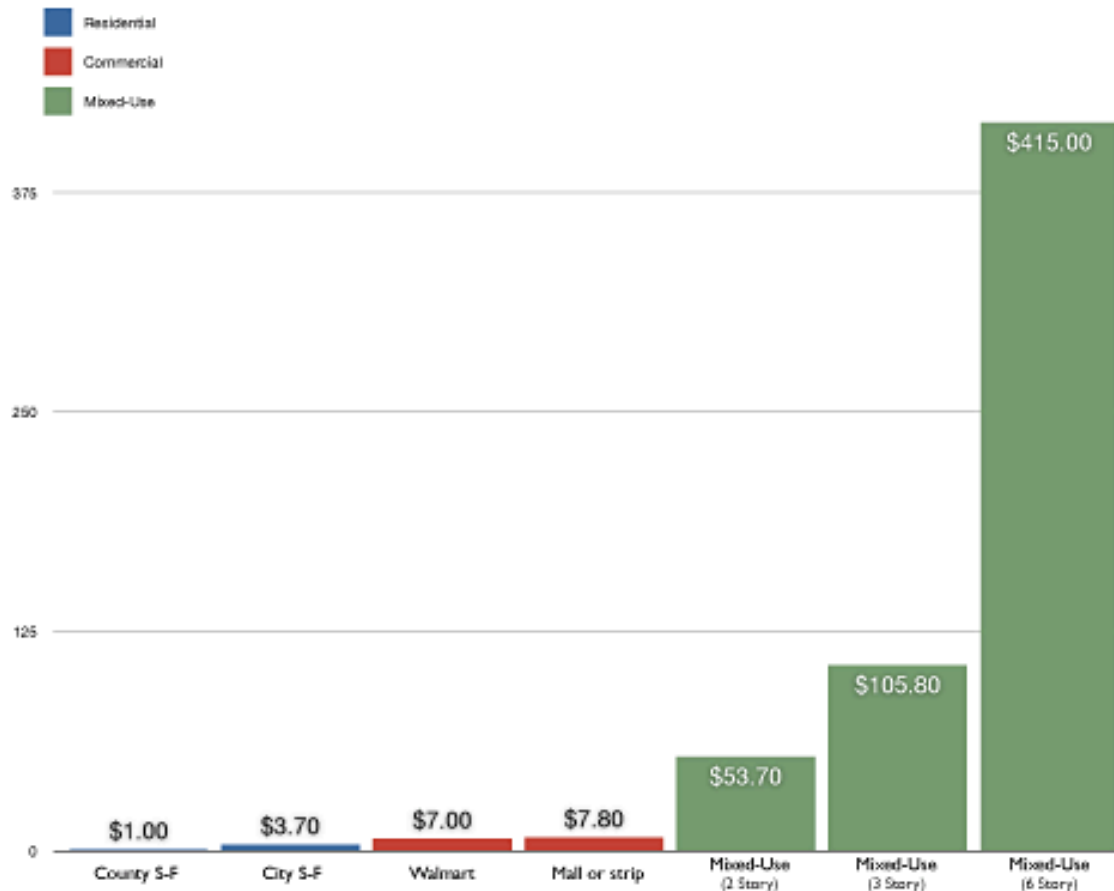


Value of "PLACE"

County Property Taxes/Acre

Ratio Difference of 15 City Sample Set

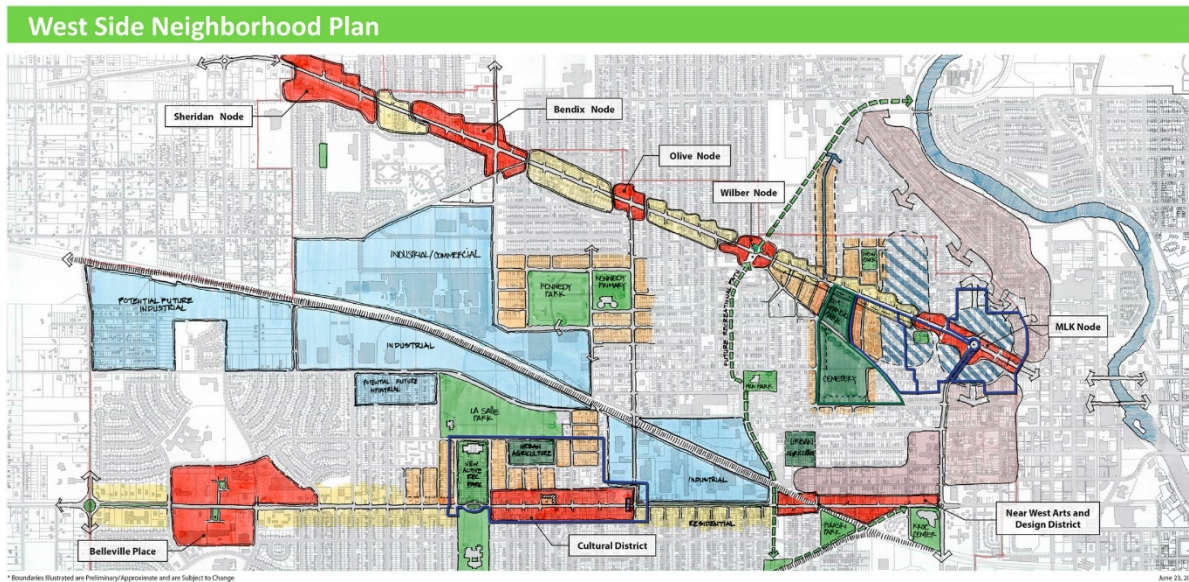
Urban³
Joseph Miriccozzi, AICP



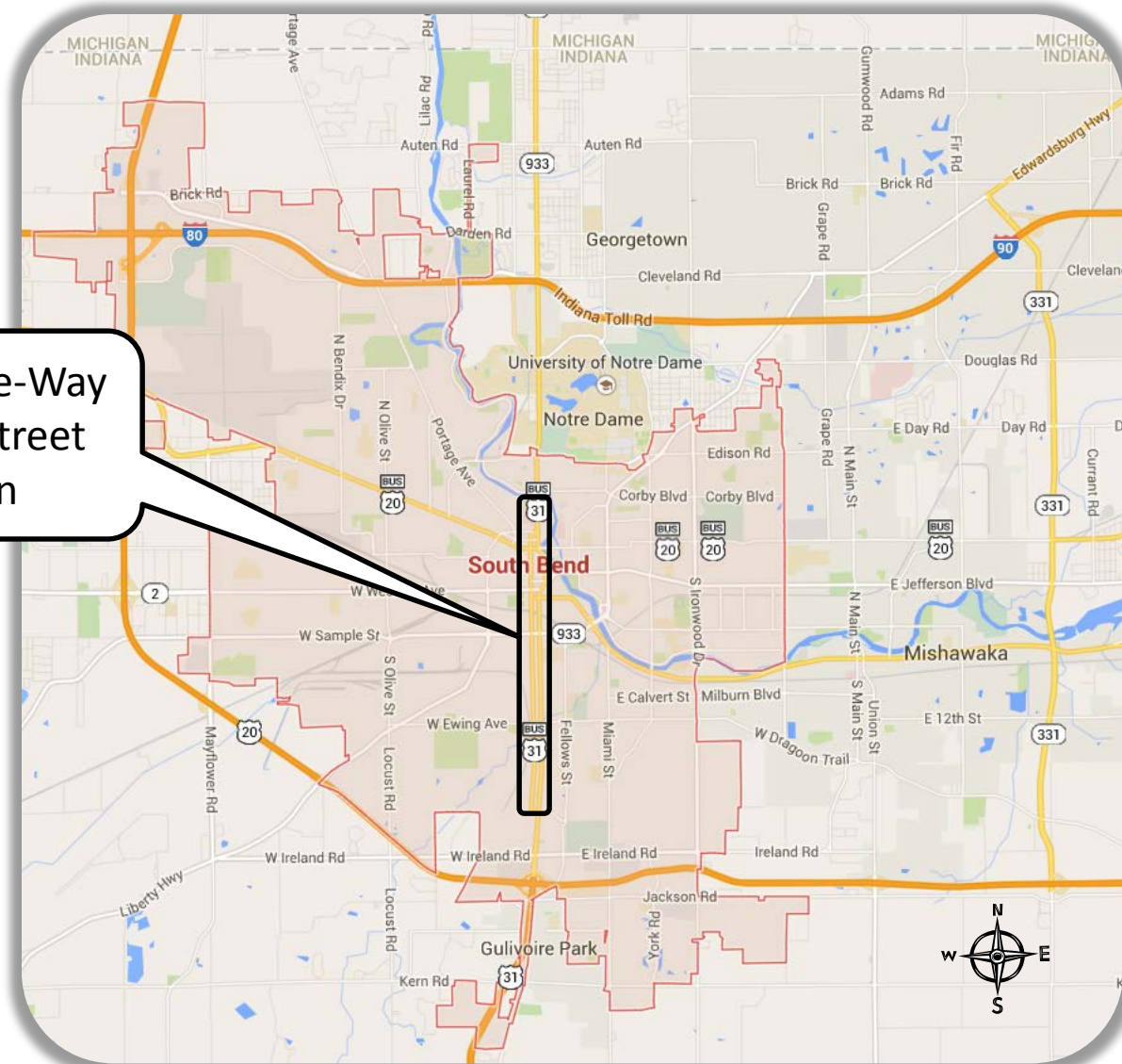
Average county property tax/acre ratio across sample set of 15 different cities from Montana to Florida.

Smart Streets Initiative

- Redefine the role of streets to serve all modes “Complete Streets”
 - Walkability, Mixed Land Uses, Connected Street network
 - Goal is to create a vibrant urban core
- Projects
 - Jefferson Streetscape
 - Downtown Two-Way Conversion
 - Westside Corridor Revitalization Plan



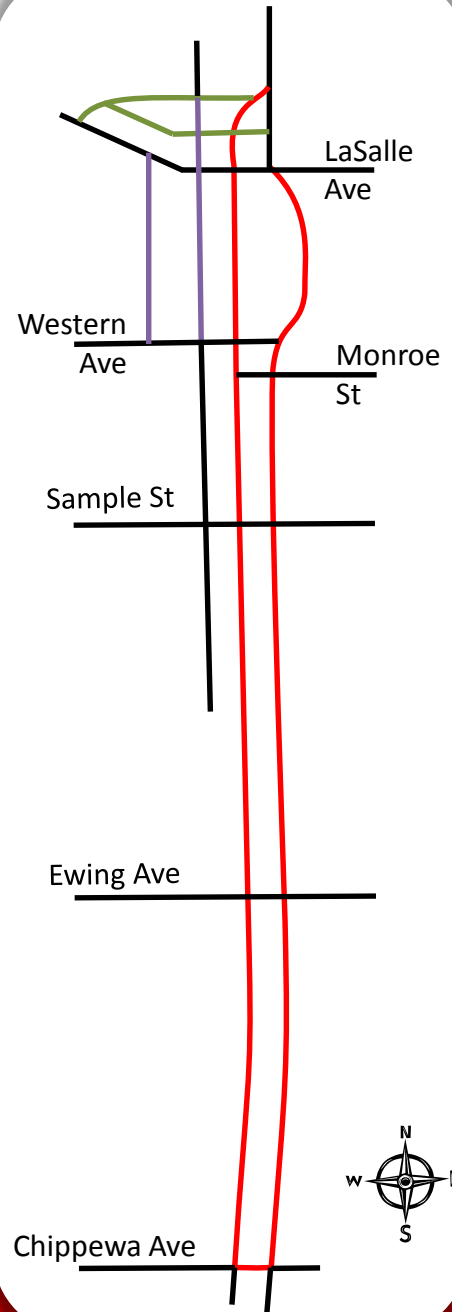
Project Location



Downtown One-Way
to Two-Way Street
Conversion

Downtown Two-Way Conversion

- Existing One-Way Pairs
 - Michigan/St Joseph Streets & Main Street (Red)
 - Lafayette Boulevard & William Street (Purple)
 - Madison Street & Marion Street (Green)



METRO

South Bend Tribune, Monday, April 15, 1985 13

Downtown counts on 2-way streets to get going

Downtown South Bend has become an exciting place. In walking across what used to be one-way streets, you can get hit by a car traveling in either direction.

"You dumb, stupid, jaywalking son of a..." A motorist cranks down his window to give me the message, gunning his engine to provide emphasis. "Next time, get yourself a white cane."

Step onto a downtown street and you don't know what's going to happen. Brakes screech. The street was one-way just yesterday. Dust flies because it's used to traffic going one way. Purring cars lying around for a long time have similar problems. Pet them leers to head and sparks fly.

"Reconsideration is being given some of the traffic patterns downtown," explains Jon Hunt, director of South Bend Redevelopment. "I expect that gradually some of the old concepts will be discarded."

Not entirely, he says. Too much downtown urban renewal, which turned South Bend around, makes that impossible. But there will be changes.

River Bend Plaza Mall, dead as a St. Joseph River carp, is being given a little mouth-to-mouth resuscitation.

As a retail center, downtown expired years ago. But there's a faint pulse. Maybe by changing traffic patterns, life can be brought back in a different form.

Washington Avenue recently was made two-way, after years of being one-way. The same thing happened to Jefferson Boulevard. Old ladies with walkers, dottering old men with canes, young mothers pushing babies in strollers, get out of the way.

Now they're talking about Michigan Street.

"The jury's still out," says John Leszczynski, city engineer. "But a portion of it — the block nearest One Michigan Square — probably will be made one-way for cars by the end of the year."

Bums sleeping on park benches, young noon-time lovers trading goodie bites from Dainty Maid sacks in front of empty, boarded-up storefronts will wonder what happened. Gone from beneath their feet will be some of the intri-



Ray Gard
GARD AT LARGE

cately laid, red-bricked pedestrian way, the expensive period street-lighting overhead that seldom flickers.

Not for a dozen years — April 15, 1973, in fact — has a car bumped onto this part of Michigan. The downtown mall, an expensive, redecorated six-block branch of fountains and exotic trees done up in modern, sweeping architecture, is a pipedream that never surfaced.

What an expensive pipedream. Now city planners want to change it. Dreams, even expensive ones, that don't work get tossed in the ashcan.

"What we'll try to do is keep the

landscaping as much as possible," explains Leszczynski, talking about Michigan in front of Robertson's. "But no question, some of it will have to come out."

Trees, fountains, part of the overhead steel girder will be given the boot. Pedestrians there now walk all over the place. Preachers preach. Bums panhandle.

All will have to be re-educated. Or suffer the consequences. People rushing from one side of the mall to the other for reasons unknown, could, in fact, be run over by cars.

That's not the problem now, since pedestrians can be counted on one hand.

But if ever a need arose for Safetyville, a traffic safety training school, the future may create demands. Classes could be set up on Michigan.

No one has thought of traffic problems there for years. But shoppers soon will be skipping and hopping. Go on the green light. Stop on the red. Yellow means caution, or back to red again, in the form of your own blood.

"To make Michigan two-way the

first block north of One Michigan Square would be impractical," explains Leszczynski. "There would be a traffic tie-up with two sets of traffic lights."

Plans have not yet been adopted. They're in the think stage. The decisions, though, will have to be made by Hunt and Leszczynski, "for the betterment of downtown South Bend."

Previous planners spent money as if they didn't know what a dollar was. They painted Michigan blue. They blocked traffic. Strangled, the face of business downtown turned, the same color.

Now, if ideas pressed forward by the Downtown Technical Advisory Committee take shape, cars soon will drone on Michigan all the way from Western to Colfax.

Michigan could even hook up with bizzaz one-way vehicles on St. Joseph Street, except for the Violin Lady.

She's standing in the way. She's beautiful, say art lovers. Usually, she's standing alone, off to one side. Hardly anyone walks in that block of Michigan, out of respect.

A lady taking a bath in a fountain couldn't be safer.

Sadly, Michigan isn't at all that it used to be. A dozen years ago, merchants crowded. They had buttoned up the downtown, declared a new master plan to spare it from noise and confusion, and assigned police to handle the pedestrian traffic.

"I want to thank the public for bearing the inconvenience," declared a public official, not knowing what merchants and planners had wrought.

No one showed up. Eventually, the town square became a circus ground where ethnic crowds ate ethnic foods on Ethnic Festival Days. On other days, bowling balls could be rolled from one end of River Bend Plaza to the other and not hit anyone.

But that's changing, on some of the side streets. People have to step quickly. Once again they dodge cars.

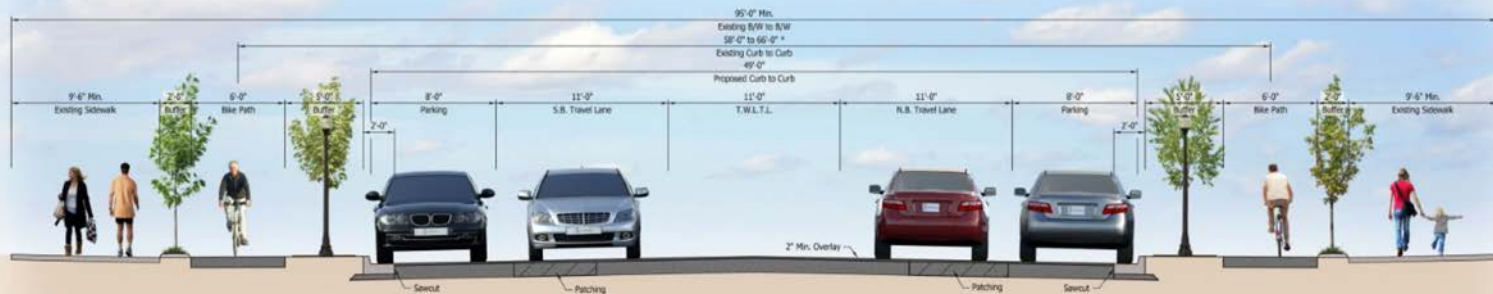
It's as if time had turned backward, the pedestrian if cars show up, or behind?

Complete Streets & Road Diets

Existing



Proposed



Main Street - Typical (Mill & Fill & Rehabilitation) * 58'-0" from Wayne Street to Washington Street
Wayne Street to LaSalle Avenue
(Long-Term Solution)

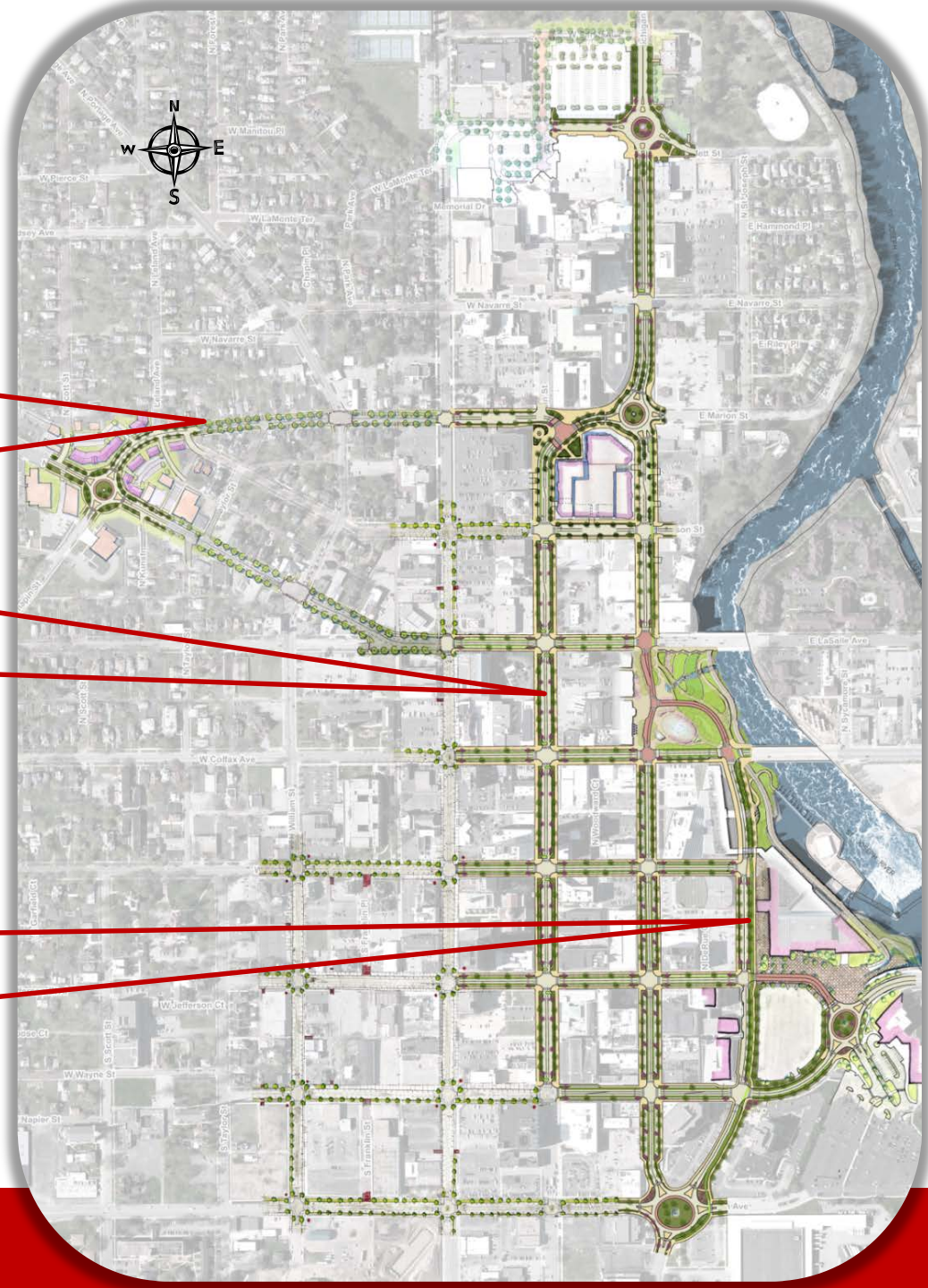
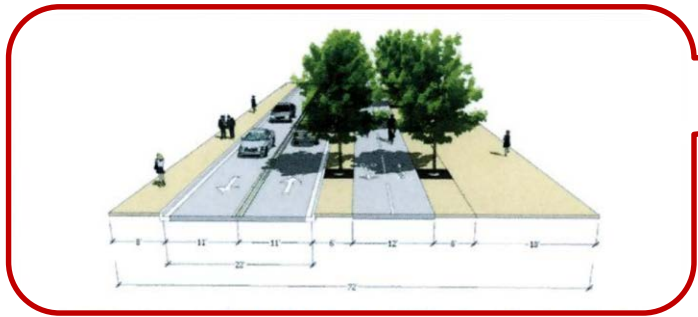
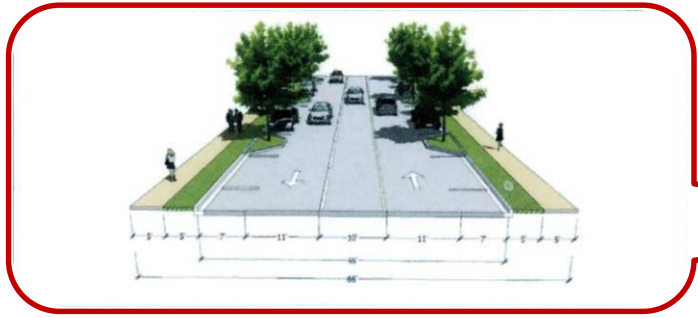
25% Full Depth Patching

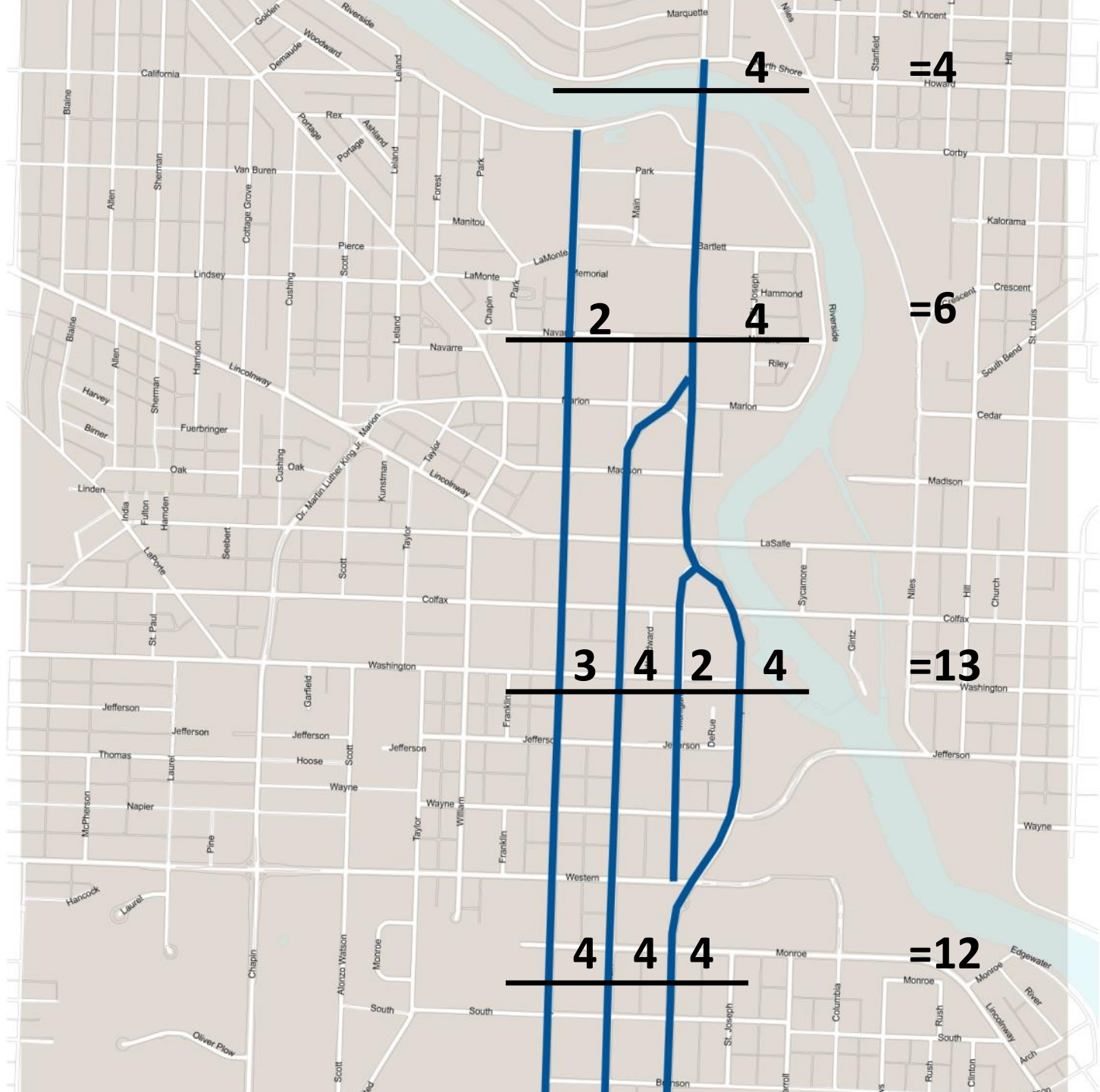
Conceptual Plan

- Two-way traffic on the following streets:
 - William Street
 - Lafayette Blvd
 - Main Street
 - Michigan Street
 - St Joseph Street
- Roundabouts at key locations to aid in traffic distribution
- Implement Road Diets & Complete Streets Philosophy



Concept Plan





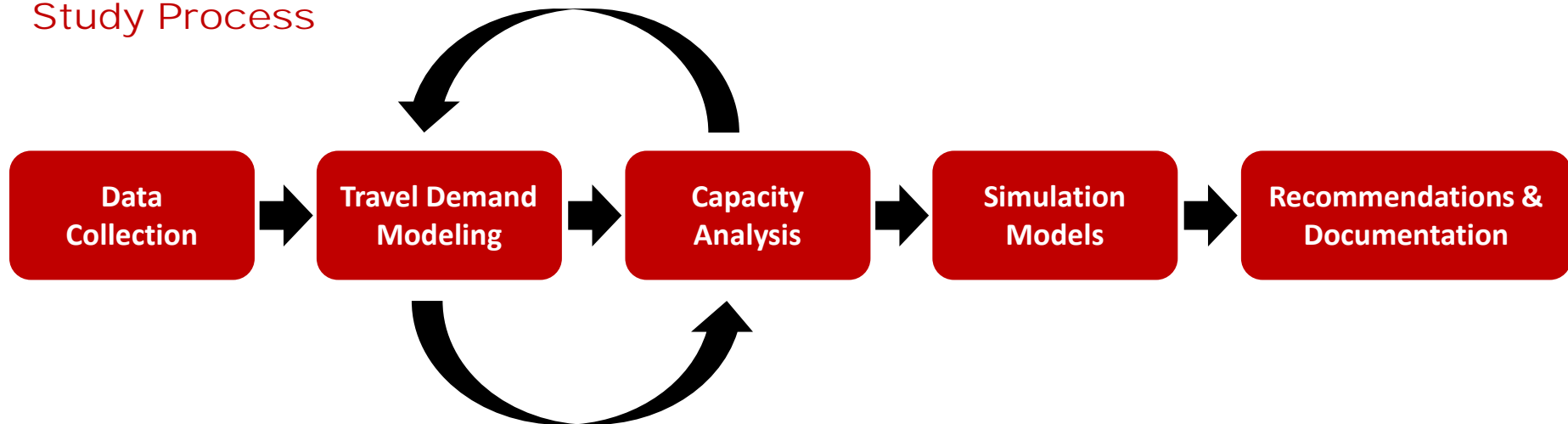
Traffic Study

Traffic Study Overview

Study Limits

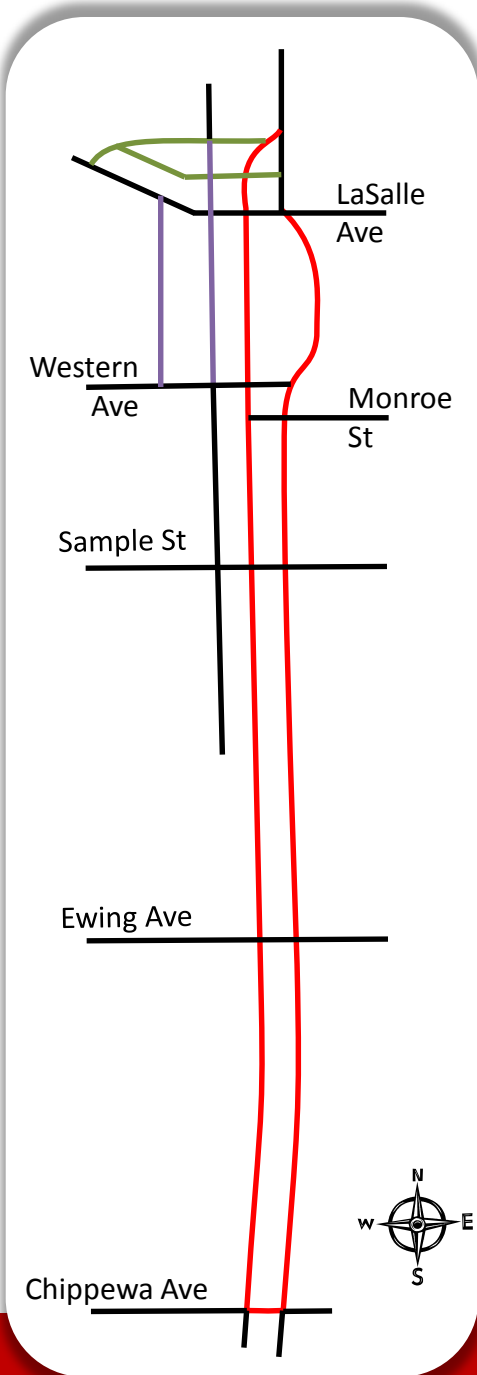


Study Process



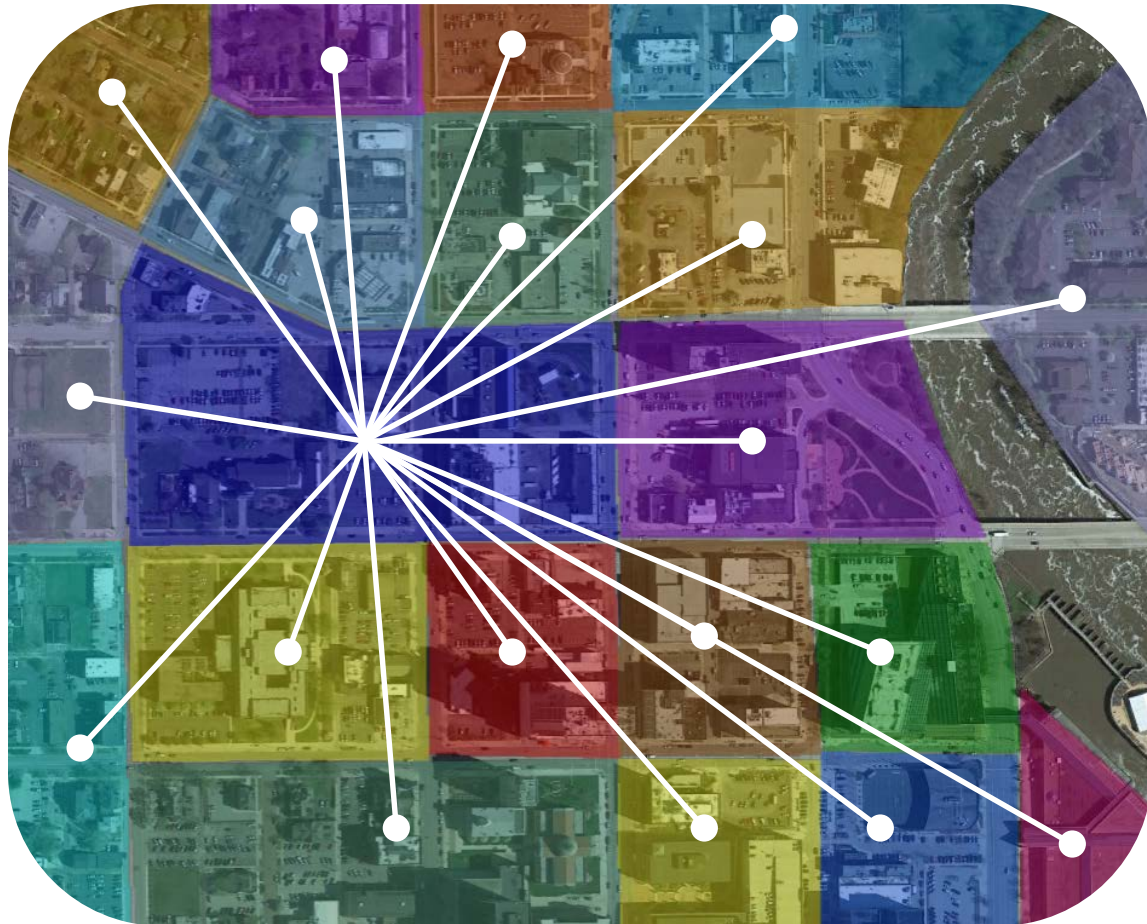
Data Collection

- 8-hr TMCs at 67 intersections
- 48-hr bi-directional counts at 10 Locations
- INDOT counts at various locations
- Origin-Destination data



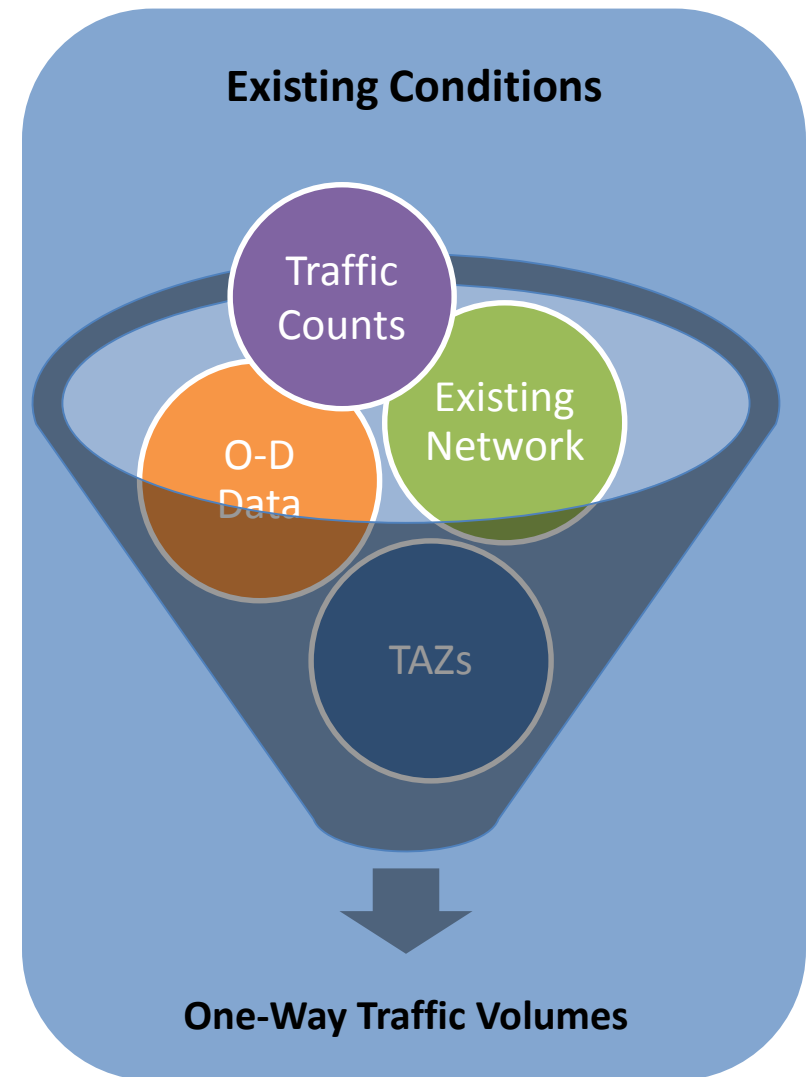
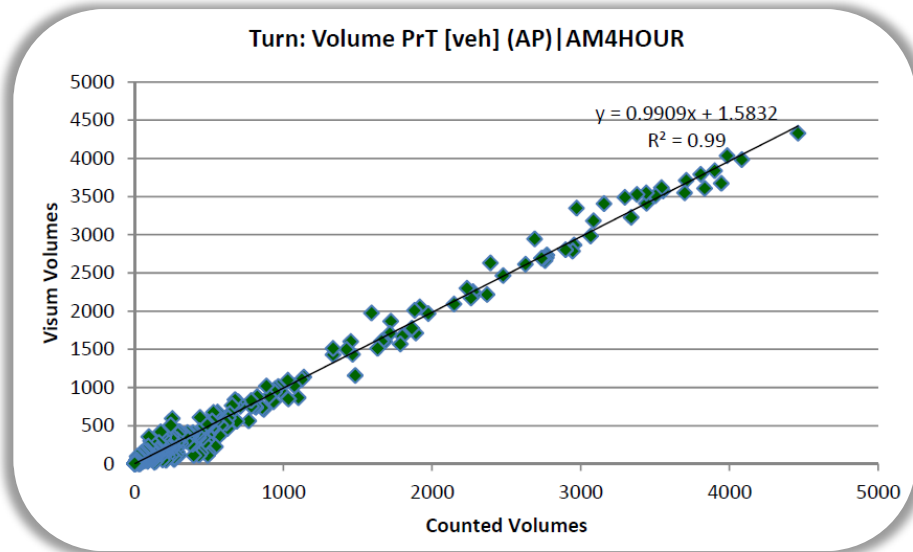
TAZs and O-D Data

- TAZs
 - Areas of similar land use
 - User defined
- O-D Data
 - Based on cell phone data
 - Start & end point of trips
 - Time stamped



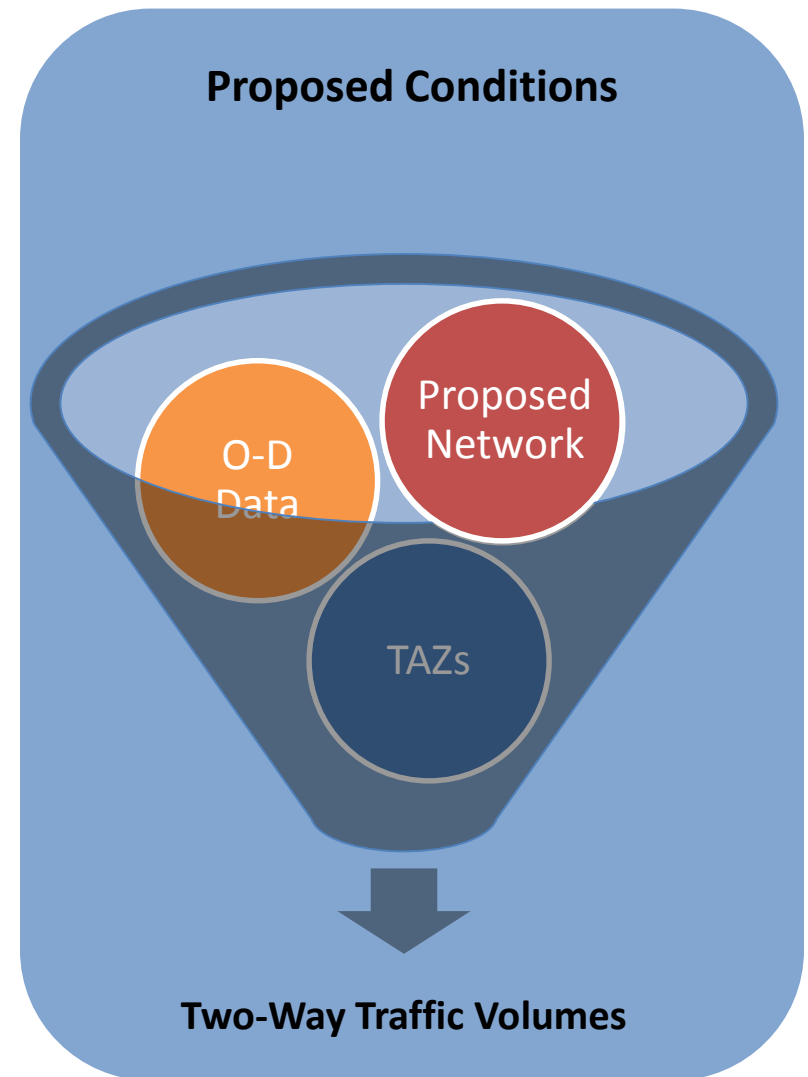
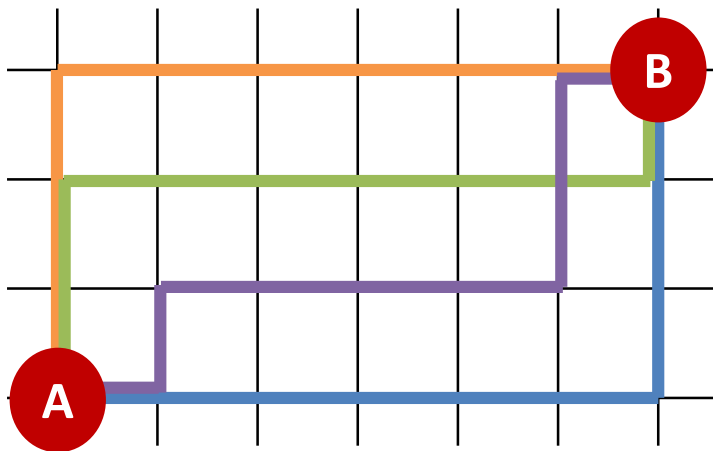
Travel Demand Modeling

- VISUM model of existing conditions
- Equilibrium Model
- Calibrated to exiting traffic counts



Travel Demand Modeling

- Change roadway network from existing to proposed
- Reassigned traffic to roadways using equilibrium model



Conceptual Plan Refinements

- Evaluate & justify elements of conceptual plan:
 - Chippewa Avenue Roundabouts
 - Western Roundabout
 - # of lanes on Main & St Joseph Streets
 - Plaza Connection
 - LaSalle Ave Typical Section
 - MLK Roundabout
- Iterative evaluation process



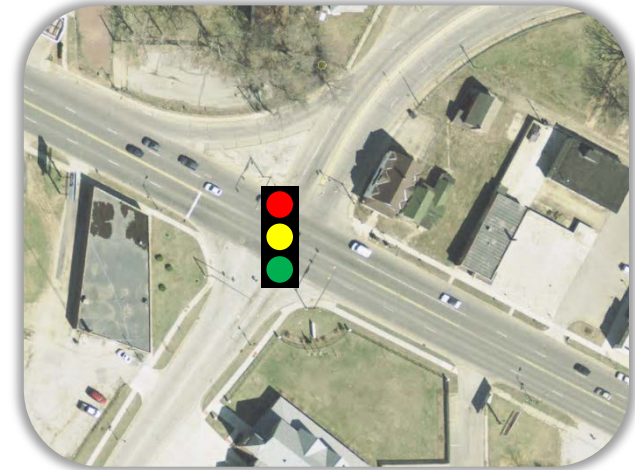
MLK Roundabout

Conceptual Plan



- Single lane roundabout operates well
- Not critical to 2016 implementation
- Requires R/W acquisition
- Derived from prior study of Lincoln Way corridor & neighborhoods
- Economic development emphasis

Revised Concept



- Signalized intersection operations are comparable to those of roundabout
- No R/W acquisition required
- Consider roundabout as a future project

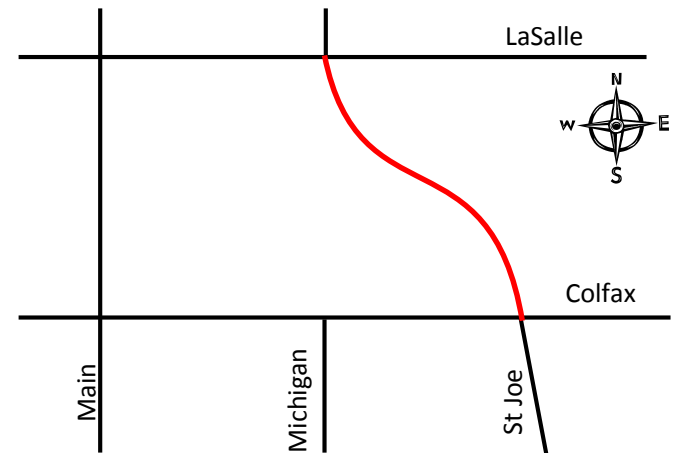
Plaza Connection

Conceptual Plan



- Traffic flow is not dependent on this connection
- Significant interest from the public
- Reconnection of grid fits Smart Streets concept

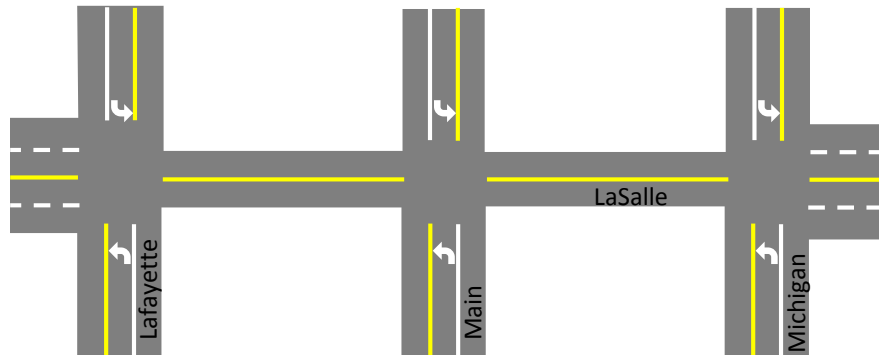
Revised Concept



- Connection needed to Main & Michigan Street traffic volumes manageable
- Retain existing configuration of St Joseph & Michigan Streets
- Consider Plaza Connection as a future project

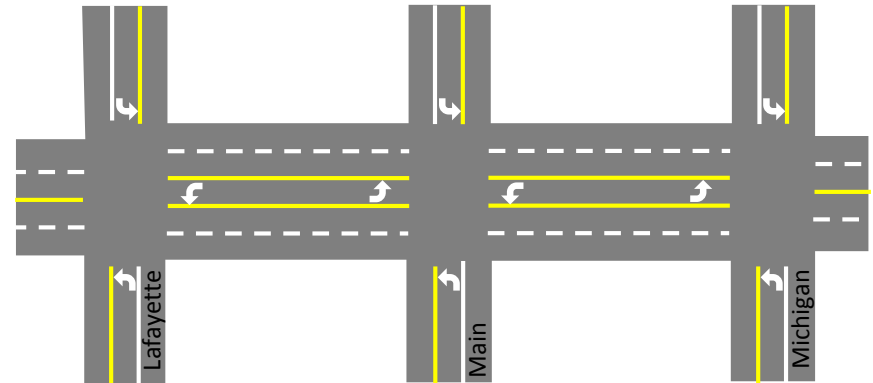
LaSalle Avenue

Conceptual Plan



- 2-Lane typical section of LaSalle Ave results in gridlock

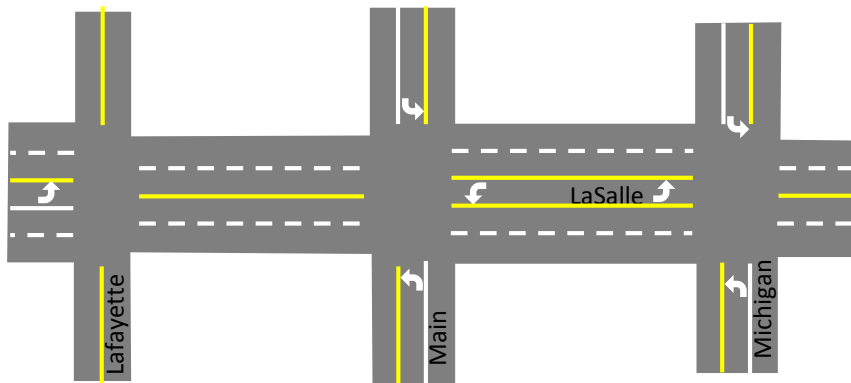
Revised Concept



- 4-Lane / 5-Lane Section needed to maintain traffic flow
- Add left turn lanes between Lafayette Ave and Main Street

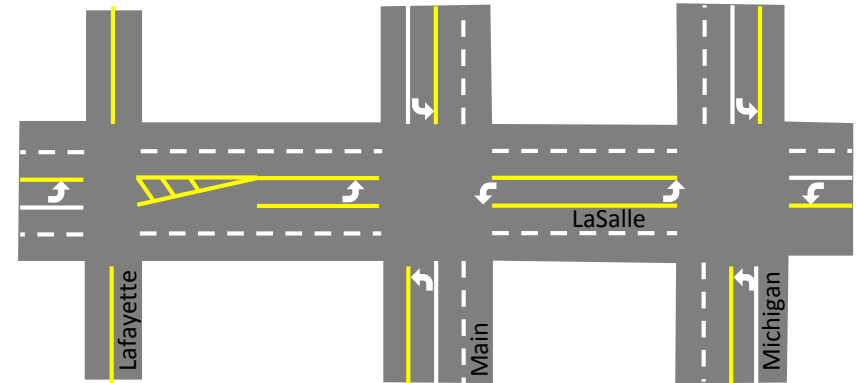
Sample Street

Conceptual Plan



- Single through lanes in north & south directions

Revised Concept



- Provide 2 northbound thru lanes on Main Street
- Provide 2 southbound thru lanes on Michigan Street
- Add left turn lanes to Sample Street

Western Roundabout

Conceptual Plan



- Not critical to 2016 implementation
- Significant R/W acquisition required
- Roundabout needed when Plaza Connector is completed

Revised Concept



- Retain existing alignments & termini
- No R/W acquisition required
- Acceptable operations for approx. 8 years

Chippewa Avenue

Conceptual Plan



- Significant R/W acquisition required for Main Street modifications
- Stop controlled intersections will not accommodate future traffic volumes

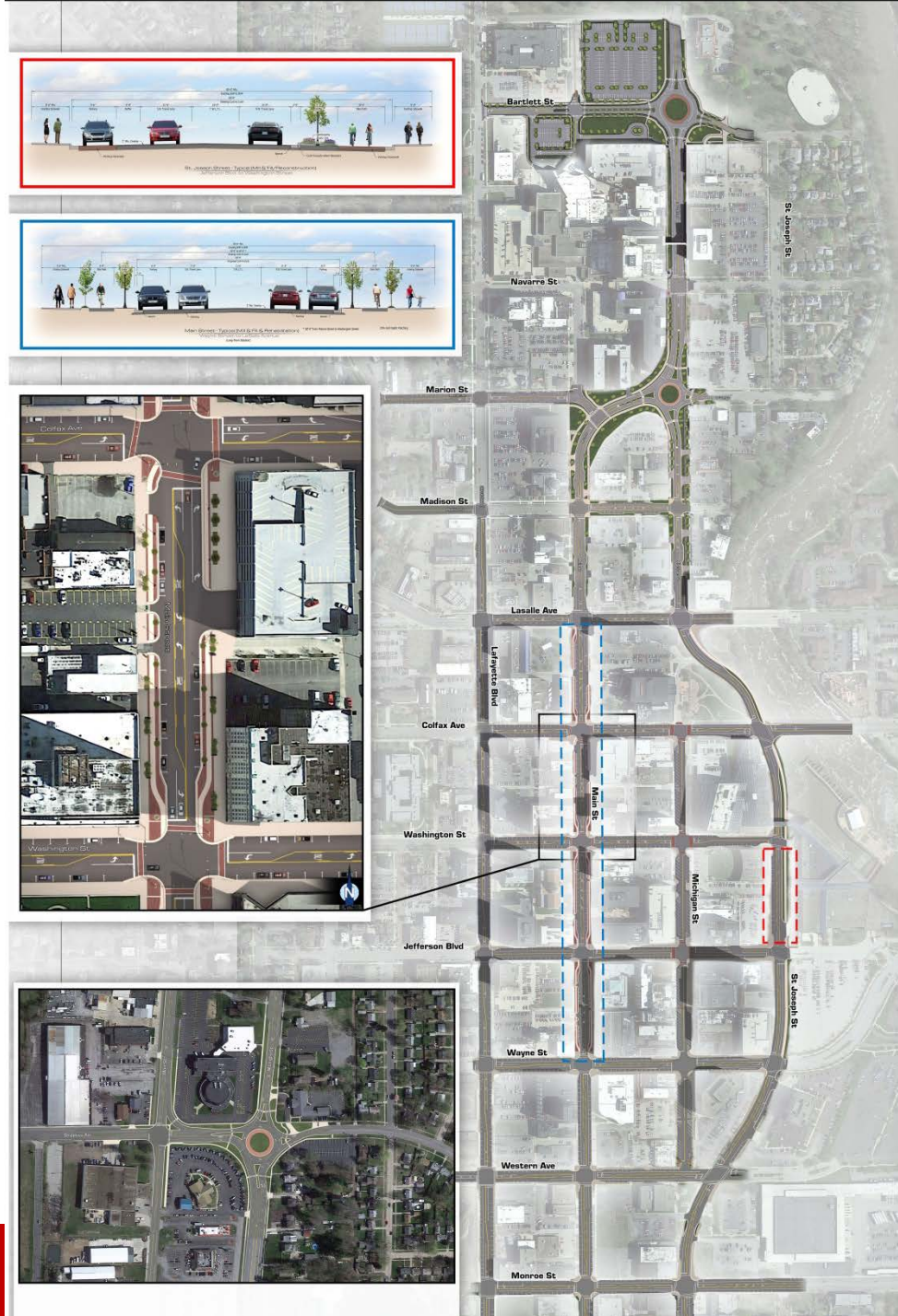
Revised Concept



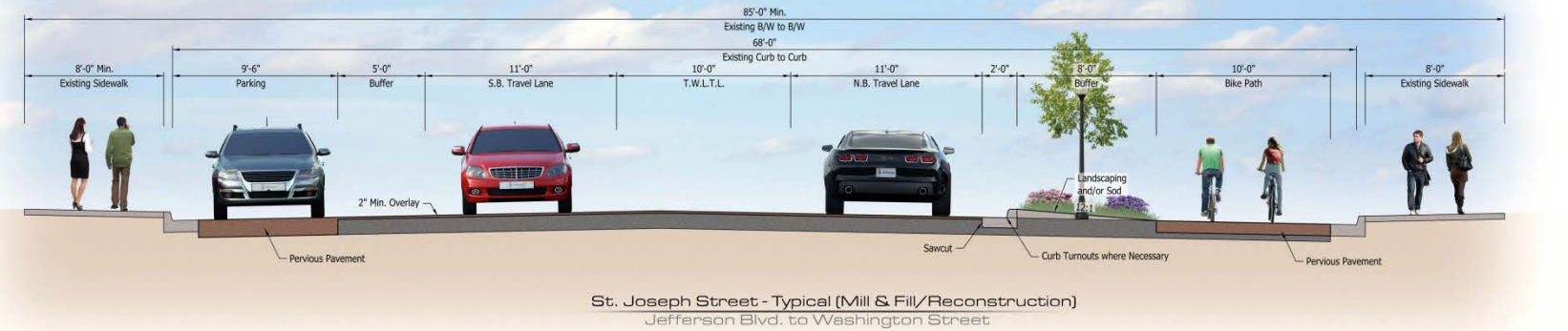
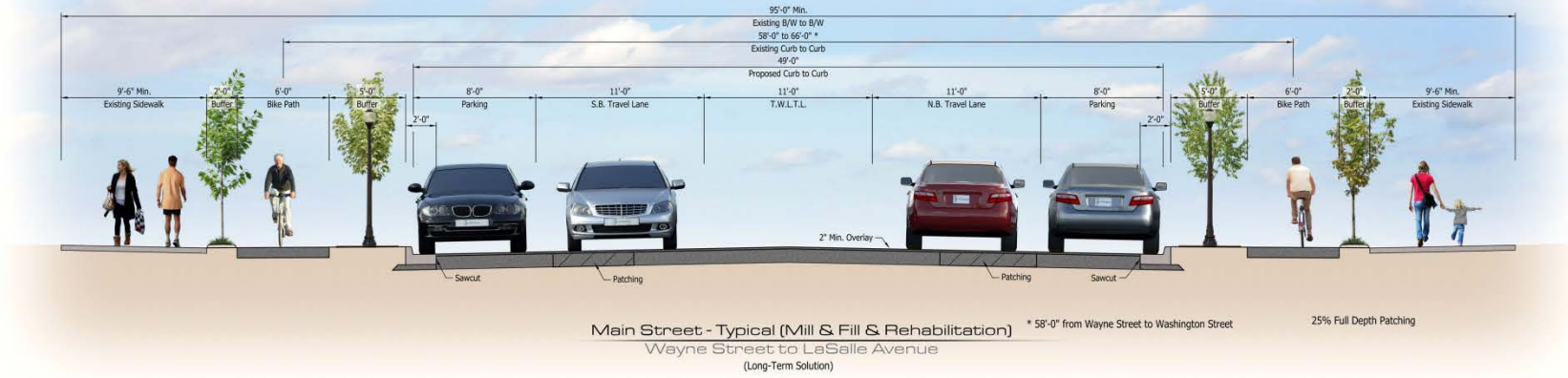
- Minimal R/W acquisition required
- A signalized intersection at Main Street operates better than original concept

Revised Concept

- Signal/ Roundabout combination at Chippewa Ave
- Western Ave
 - Interim: Signalized
 - Ultimate: Roundabout
- Retain existing St Joseph & Michigan Street termini
- Retain 4-lane/5-lane section on LaSalle Ave
- Potential future projects:
 - Western Roundabout
 - MLK/LWW intersection improvement
 - Plaza Connector
 - Main/Chippewa Roundabout



Typical Sections



Marion St & Bartlett St Roundabouts

- Roundabouts distribute traffic to north-south roadways
- Improved ingress/egress to hospital



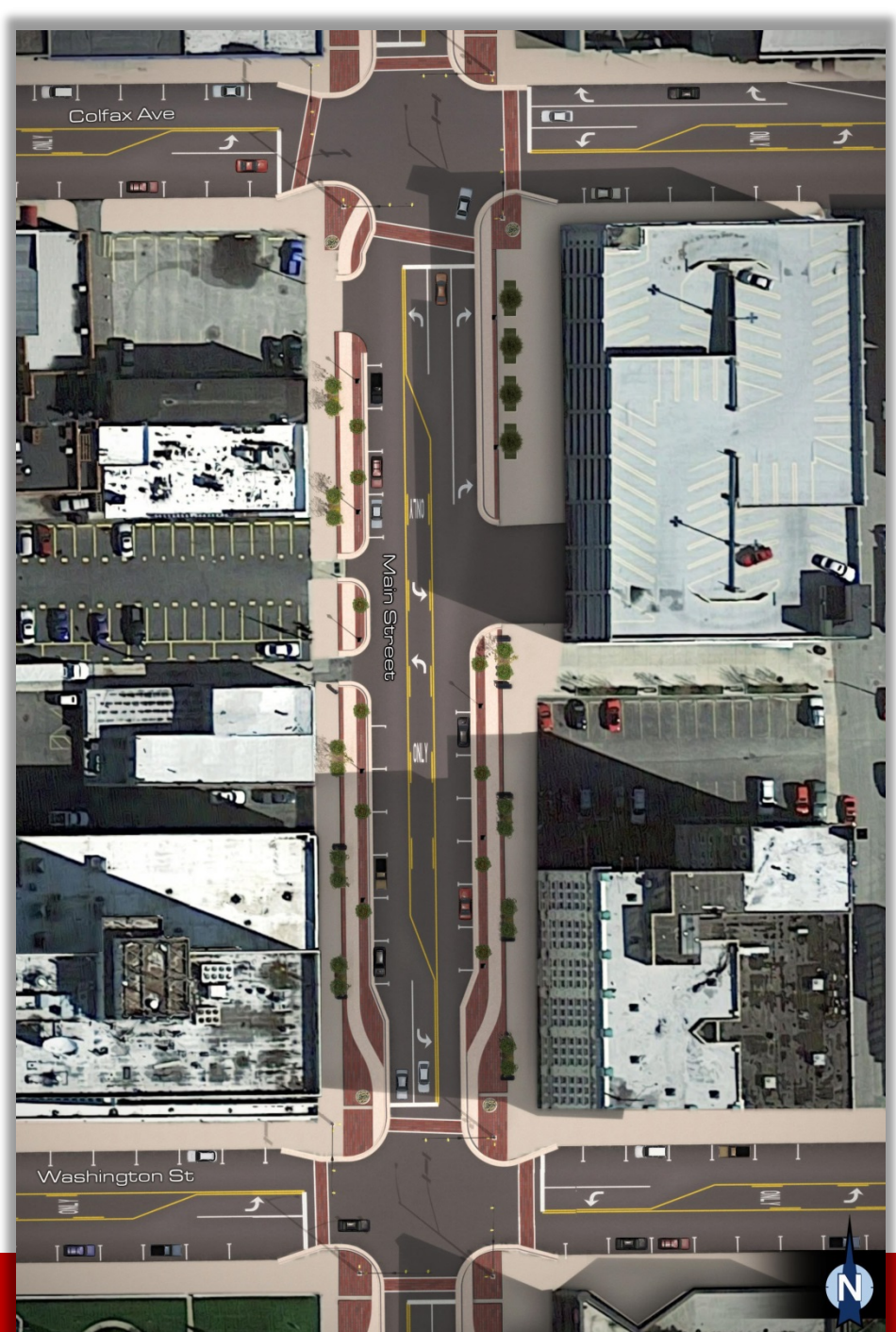
Chippewa Avenue

- Roundabout distribute north-south traffic between Main & Michigan Streets
- Signal accommodates design year volumes at acceptable LOS



Main Street

- Two-way traffic
- Center turn lane
- Parking along both sides
- Bikes separated from vehicles
- Streetscape



St Joseph Street

- Two-way traffic
- Center turn lane
- Parallel parking where space permits
- Bike path on east side

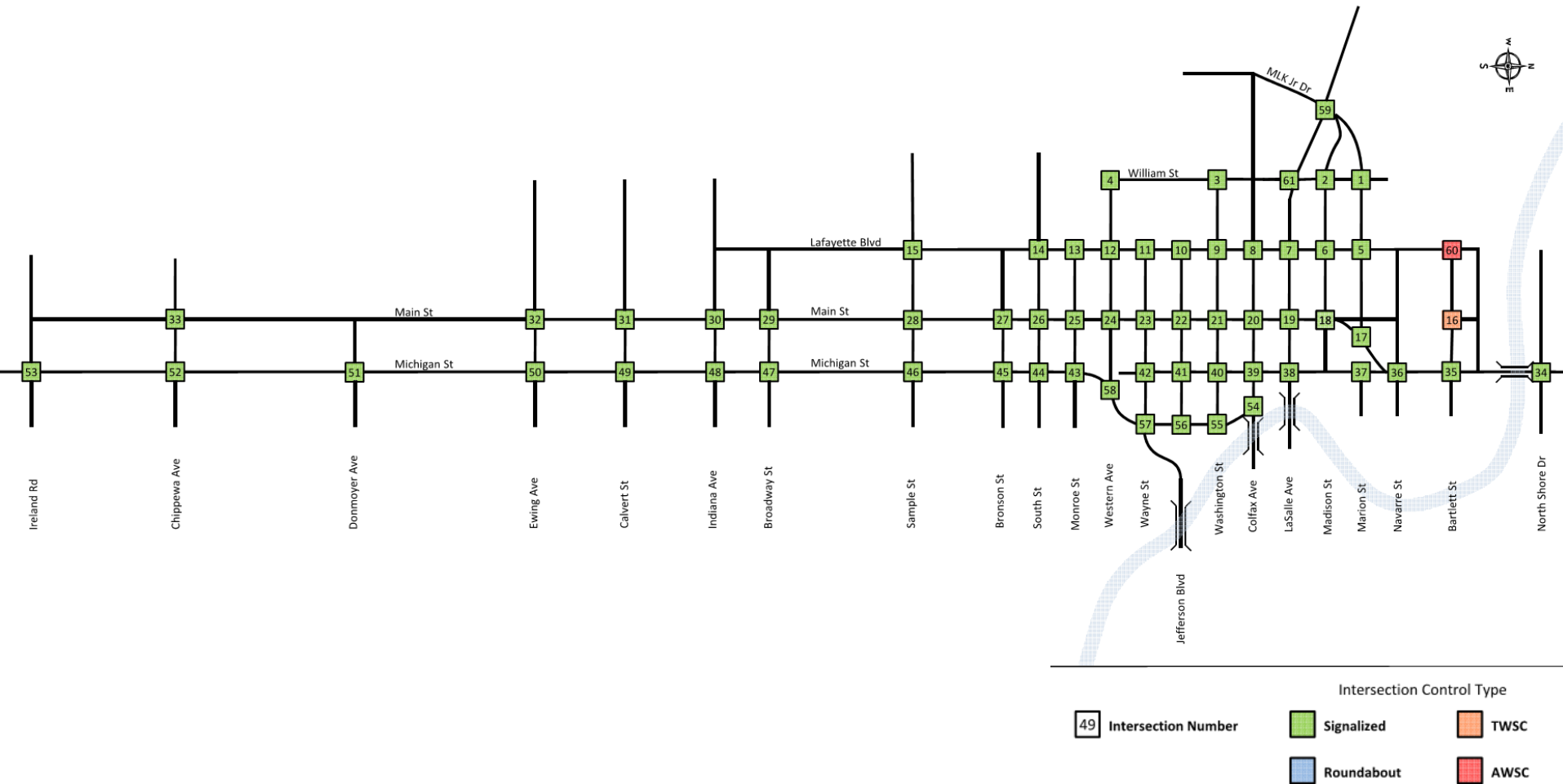


Traffic Signal Warrants

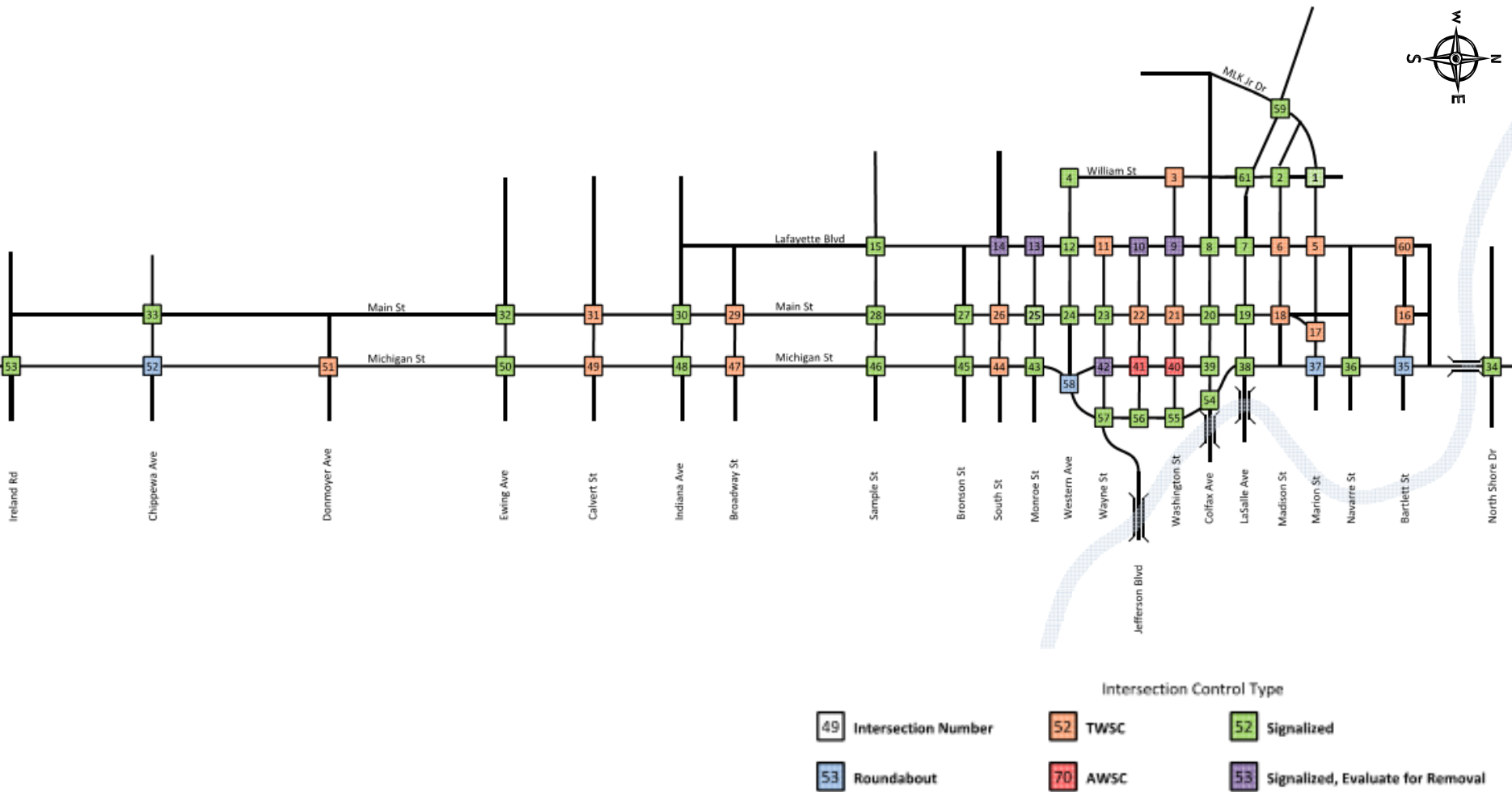
- Evaluated 4 of 9 warrants
- Used 2014 2-way volumes from TDM

Warrant	Description	Applicable	Comment
1	8-Hour Vehicular Volume	X	
2	4-Hour Vehicular Volume	X	
3	Peak Hour Vehicular Volume	X	
4	Pedestrian Volume		Pedestrian volumes not available
5	School Crossing		No schools near study
6	Coordinated Signal System		Signal spacing is largely < 1,000 ft
7	Crash Experience		Crash patterns are expected to change with two-way conditions
8	Roadway Network	X	
9	Grade Crossing		No at-grade rail crossings in study area

Existing Traffic Control Types

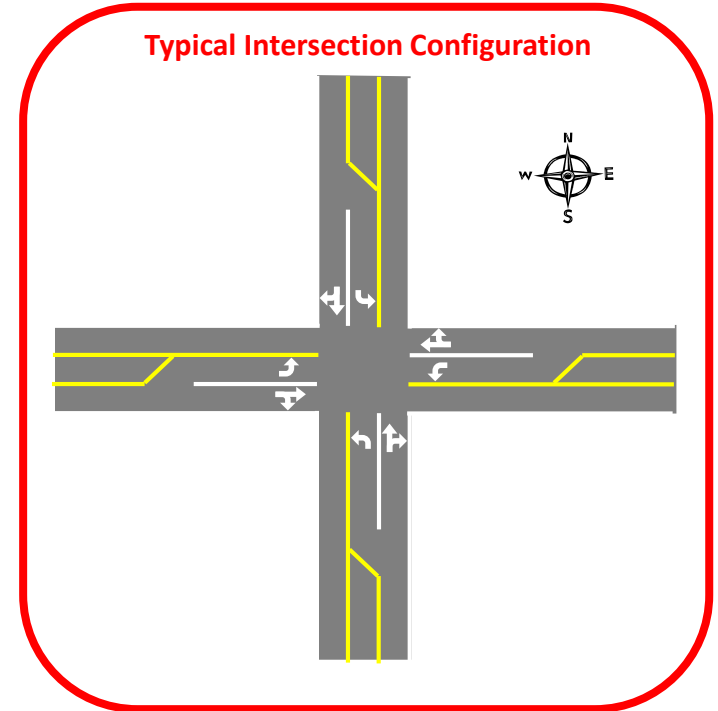


Recommended Traffic Control Types



Capacity Analysis

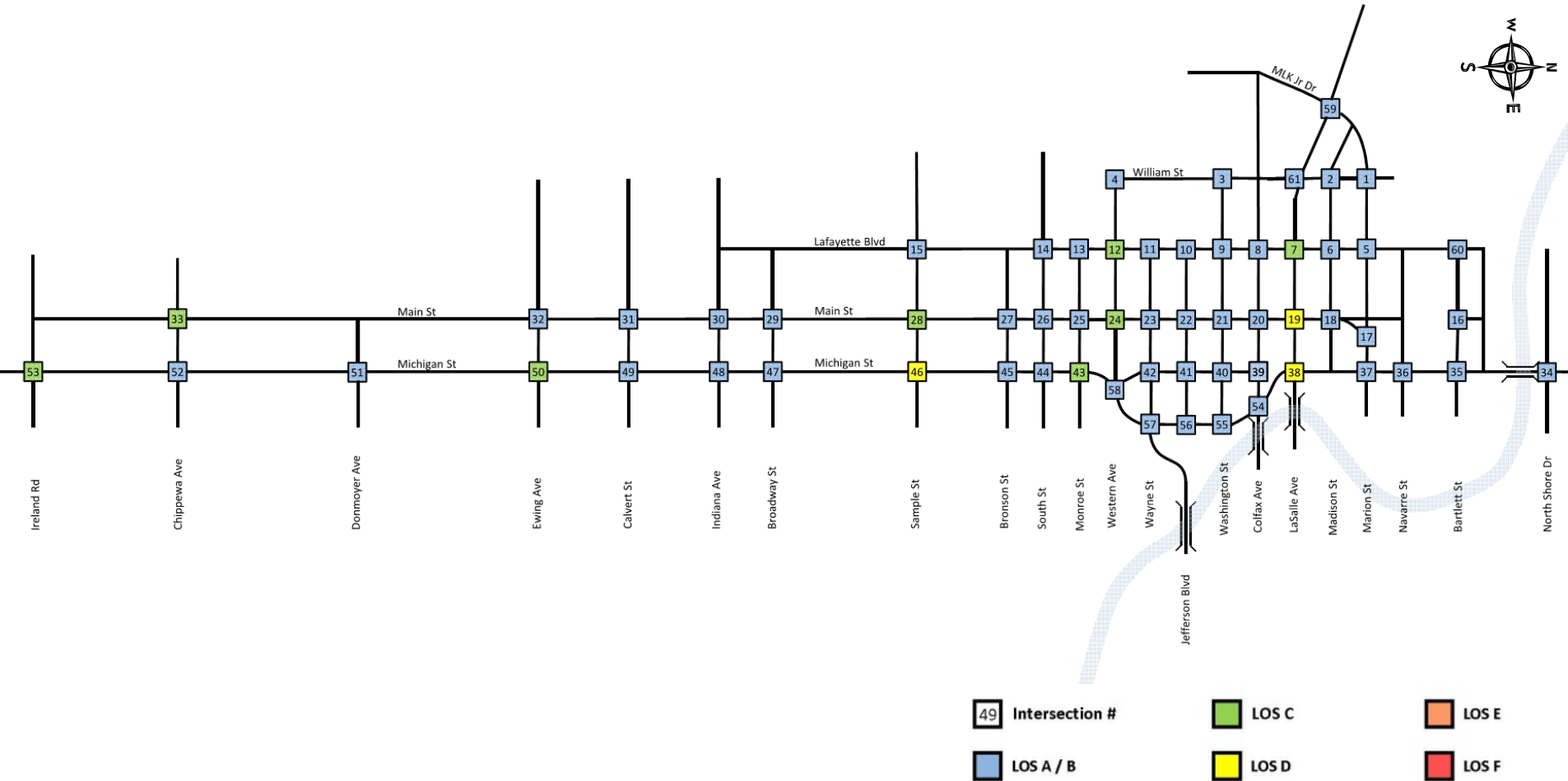
- Signalized & Unsignalized Intersections - SYNCHRO
- Roundabouts – SIDRA
- All results reported using HCM 2010 methodology
- AM & PM peak hour analysis
- 3 Scenarios:
 - 2014 Existing
 - 2014 Proposed
 - 2038 Proposed
- LOS Goal: LOS D or better



2014 AM 2-Way Conditions



2014 PM 2-Way Conditions



2038 AM 2-Way Conditions



2038 PM 2-Way Conditions



Traffic Study

Findings/Recommendations

- Downtown Two-way conversion is feasible
- Retain existing alignment and termini of St Joseph & Michigan Streets
- Retain 4-/5-lanes on LaSalle Ave
- Construct Bartlett, Marion & Michigan/Chippewa roundabouts in 2016
- Add N-S through lanes at Sample Street
- Standard intersection lane configuration works in most locations
- Right turn lanes are needed in various locations
- Consider the following as future projects:
 - Western Roundabout
 - MLK/LWW intersection improvement
 - Plaza Connector
 - Main/Chippewa Roundabout

Implementation

Implementation

- Coordination
- Phasing
- Funding

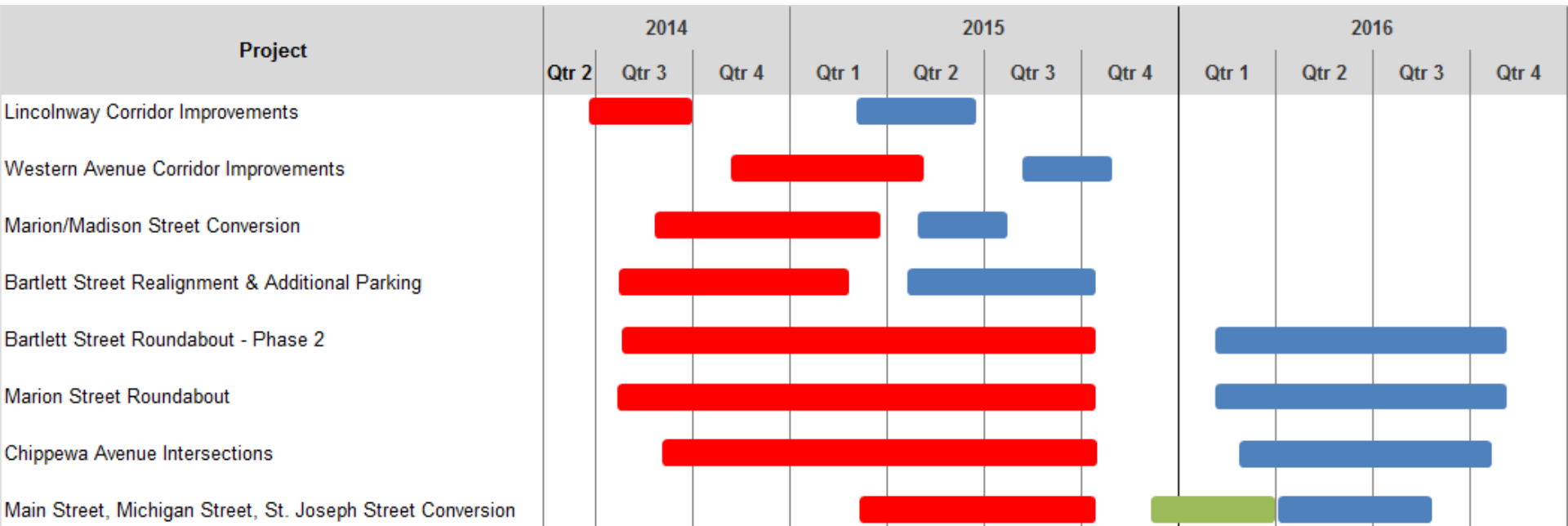


Coordination

- With INDOT
 - INDOT is supportive of City's goals for Complete Streets Philosophy
 - Perform work on permit basis
 - Working with Open Roads Philosophy
- With Consultants
 - Several consultants
 - Aggressive schedule
 - Various phases



Phasing

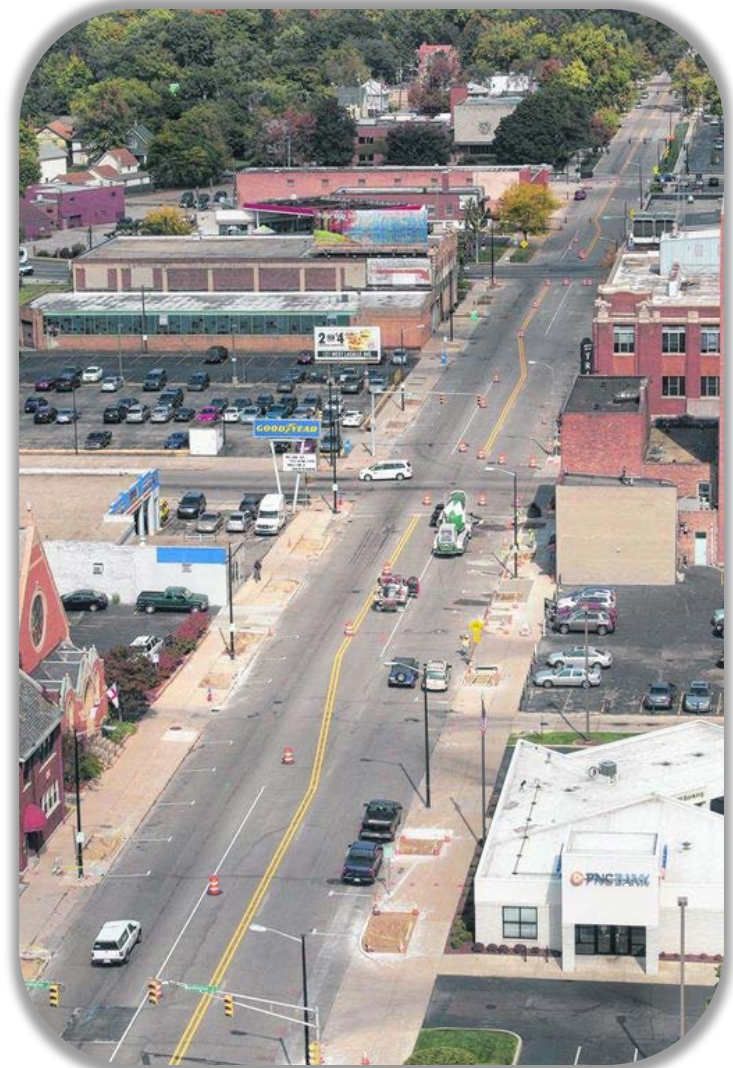


Legend

- Design
- Construction
- Traffic Signal Conversion

Lafayette Blvd & William Street

- Traffic study completed in 2011
- Construction completed in late 2014
- Public comments to date are overwhelmingly positive



Funding

- \$25M in TIF bonds being sold to fund construction of revised concept
- Pursue additional funding sources for future highway projects using federal highway funds



Future Projects

MLK Roundabout



Plaza Connection



Western Roundabout



Main/Chippewa Roundabout



Questions

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