SYSTEMATIC SAFETY IMPROVEMENT PILOT PROJECT PHASE II: TARGET PEDESTRIAN CRASHES

Transportation Advisory Committee: 7.1.2015

morpc
Mid-Ohio Regional
Planning Commission

What are we asking of you today?

- Information only
- No action required

Project Goal:

- Reduce the occurrence of fatal and serious injury crashes on the locally maintained system through the installation of low-cost safety improvements (countermeasures)

Project Structure:

- 2 Phases ($1,000,000 each)
  - Both target crash types that tend to result in severe injuries and fatalities

Phase 1	Phase 2
Targets intersection crashes	Targets pedestrian crashes

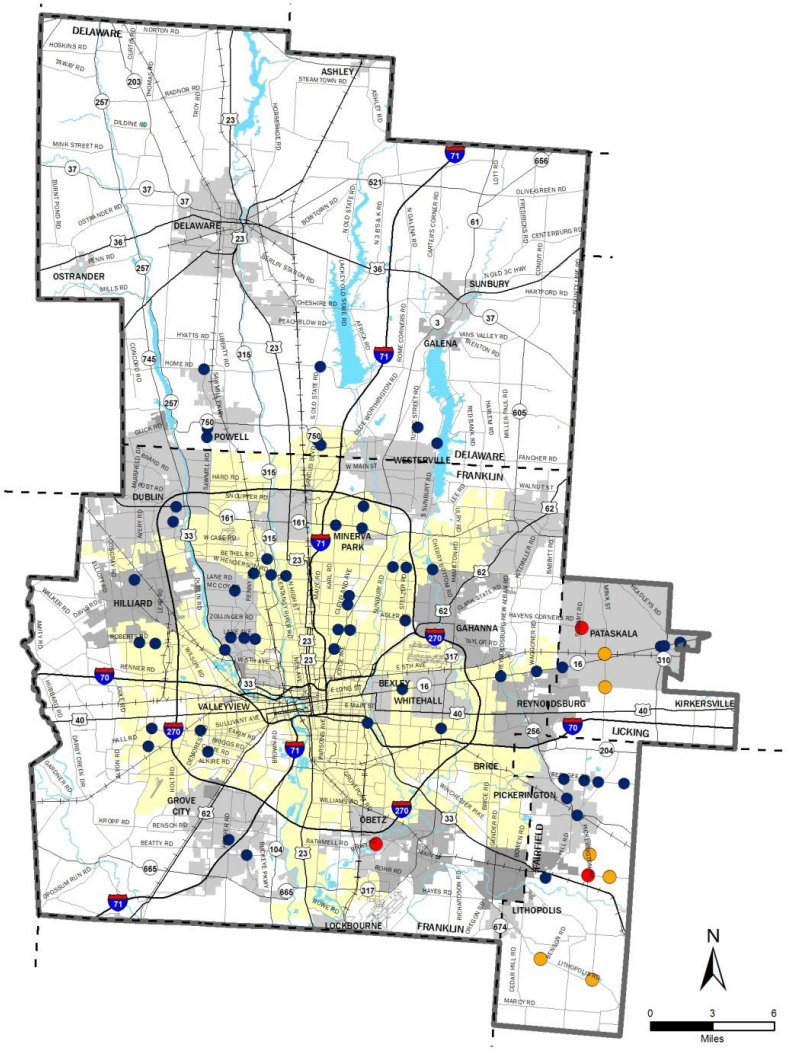
SSI Phase I Locations

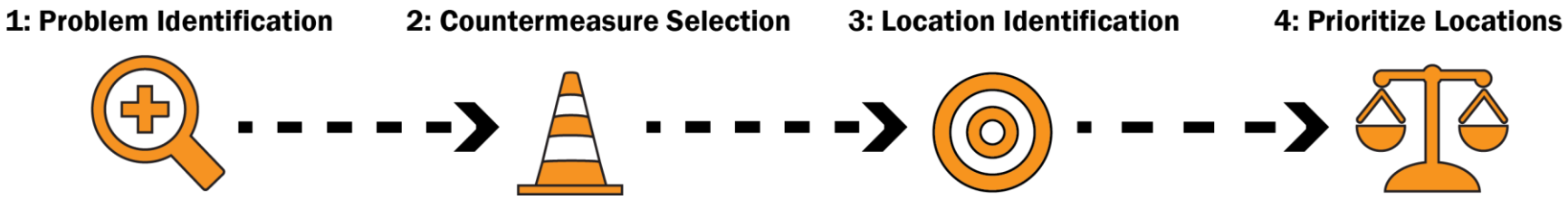
- 3 Countermeasures
- 62 Locations included in Phase I
- Locations spread across 11 jurisdictions
- Construction to begin 7.29.2015

Signal Upgrade Location

FHWA Signage Location

LED Stop Sign Location

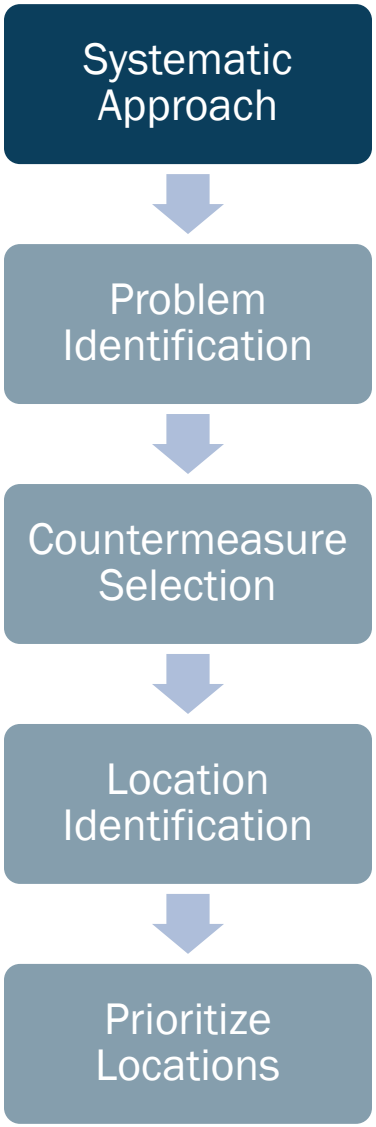




SSI PHASE II: THE PROCESS

The systematic approach to safety is a process to identify serious safety problems within the region and to treat them through the installation of low- to medium-cost safety improvements.

MORPC's SSI Process



1. **Problem Identification:** What types of crashes tend to result in fatal and serious injuries and what are their common factors?

2. **Countermeasure Selection:** What countermeasures could be implemented to reduce or prevent these crash types?

3. **Location Identification:** Where does a heighten risked of the focus crash type exist?

4. **Prioritize Locations:** Of these locations, which deserve immediate attention?

Problem Identification

Systematic Approach

Problem Identification

Countermeasure Selection

Location Identification

Prioritize Locations

CRASH TYPE BY FREQUENCY AND SEVERITY

CRASH TYPE	TOTAL CRASHES	CRASH SEVERITY				FSI RATE
		Fatal	Serious Injury	Minor Injury	No Injury	
Rear End	59,535	39	569	15,190	43,737	1.0%
Angle	28,787	43	655	8,233	19,856	2.4%
Sideswipe - Passing	22,857	9	247	3,273	19,328	1.1%
Fixed Object	21,361	124	778	5,195	15,264	4.2%
Parked Vehicle	15,410	12	114	1,225	14,059	0.8%
Left Turn	9,607	25	323	3,364	5,895	3.6%
Backing	6,229	2	16	260	5,951	0.3%
Animal	4,687	-	16	279	4,392	0.3%
Sideswipe - Meeting	3,679	32	124	1,042	2,481	4.2%
Other Non-Collision	2,695	3	70	510	2,112	2.7%
Pedestrian	2,590	89	411	1,800	290	19.3%
Pedalcycles	1,360	12	136	965	247	10.9%
Head On	1,344	32	120	563	629	11.3%
Other Object	1,282	2	18	122	1,140	1.6%
Overturning	895	16	95	454	330	12.4%
Unknown	420	7	15	102	296	5.2%
Train	16	-	1	4	11	6.3%
Other Non-Vehicle	6	-	-	3	3	0.0%
Falling From Or In Vehicle	1	1	-	-	-	100.0%

Notes
- Shaded yellow cells indicate the crash type with the highest value for each respective column.
- FSI Rate refers to the percentage of crashes resulting in a fatality or serious injury

PEDESTRIAN CRASH SEVERITY BY CONTRIBUTING FACTOR

	CONTRIBUTING FACTOR	CRASH SEVERITY				TOTAL CRASHES
		Fatal	Serious Injury	Minor Injury	No Injury	
PEDESTRIAN ERROR	Improper Crossing	32%	27%	15%	17%	18%
	Darting	5%	10%	8%	6%	8%
	Lying And/Or Illegally In Roadway	16%	6%	3%	6%	4%
	Other Pedestrian Factors	14%	14%	12%	14%	13%
	Total (Pedestrian in Error)	67%	58%	39%	42%	43%
OTHER UNIT IN ERROR	Failure To Yield	8%	17%	26%	22%	24%
	Failure To Control	10%	4%	5%	7%	6%
	Operating Vehicle In Negligent Manner	3%	1%	2%	3%	2%
	Other Driver-related factors	12%	20%	28%	26%	26%
	Total (Driver in Error)	33%	42%	61%	58%	57%
TOTAL CRASHES		3%	16%	69%	12%	100%

Notes
- Percentages shown are based only on crashes with an *at-fault* vehicle reported.
- Percentages shown refer to the portion of total crashes attributable to the contributing factor, for each severity level. For instance, *darting* accounts for 10% of all fatal pedestrian crashes.
- Shaded yellow cells indicate the contributing factor with the highest value for each respective column, excluding grouped categories (other driver and pedestrian-related factors).

http://www.morpc.org/pdf/2014FINAL_CFS_2009_2013.pdf

Systematic Approach

Problem Identification

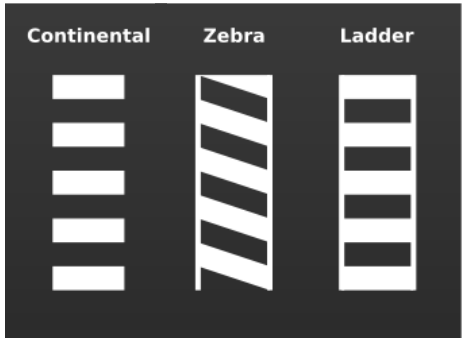
Countermeasure Selection

Location Identification

Prioritize Locations

Selected Countermeasures

- Pedestrian Countdown Timers
- High Visibility Crosswalk Markings
- Rectangular Rapid Flashing Beacon



Systematic Approach

Problem Identification

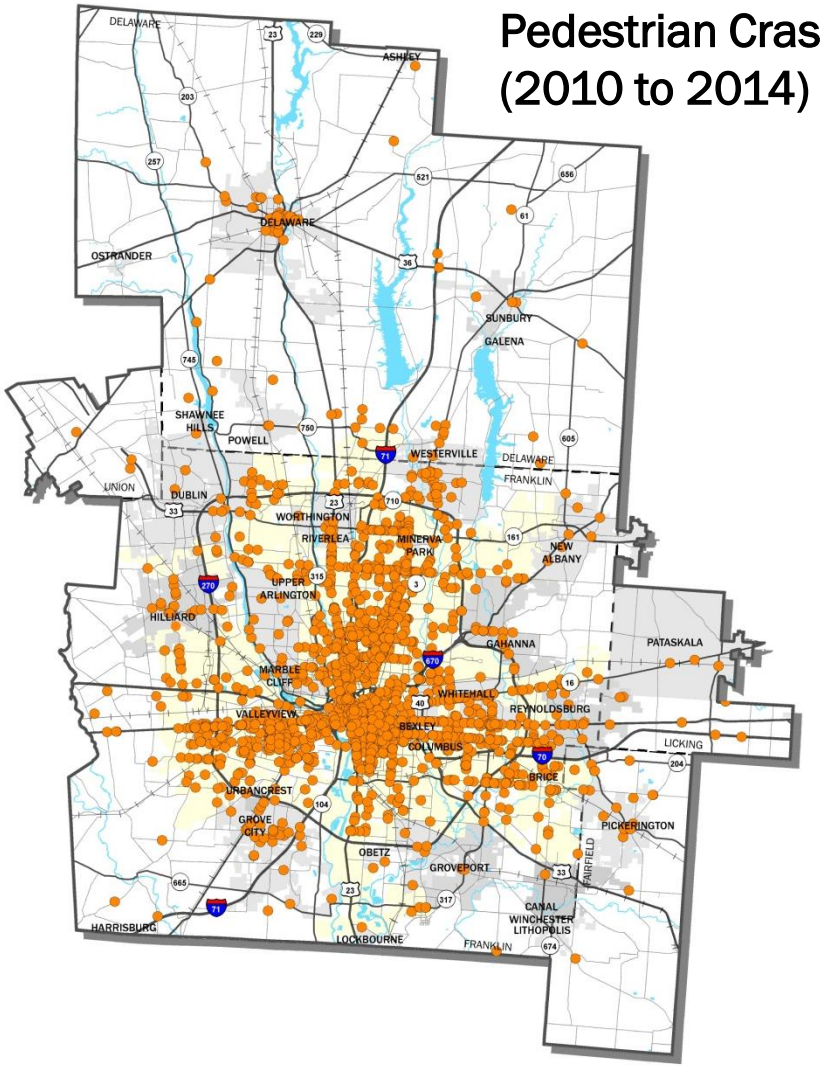
Countermeasure Selection

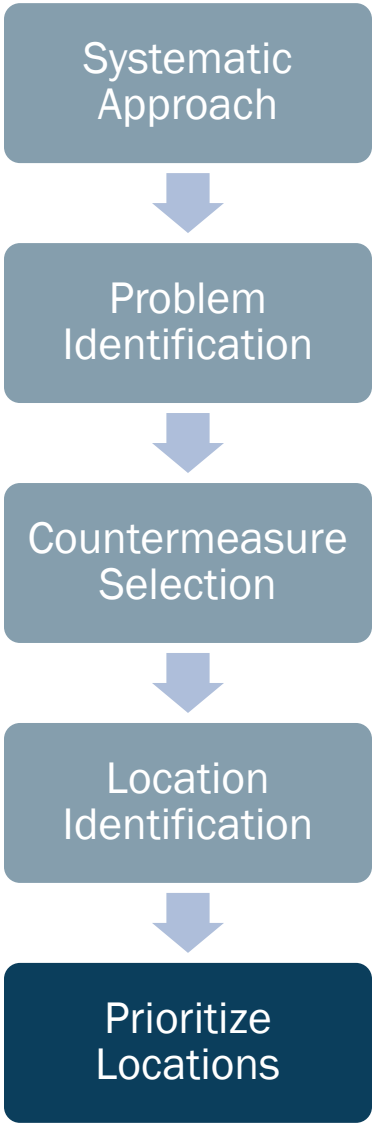
Location Identification

Prioritize Locations

Location Identification

Pedestrian Crashes (2010 to 2014)





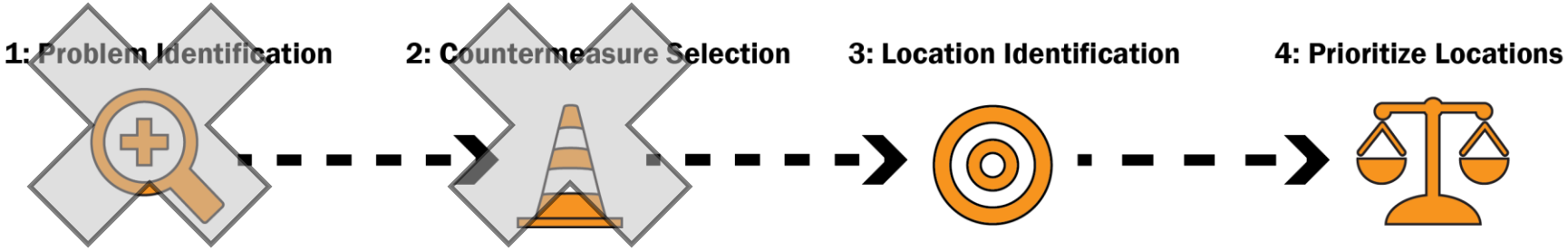
Prioritize Locations

- Total Phase Budget: $1,000,000
- Total jurisdiction allocation is the sum of a floor allocation and a need allocation.
- Example:
  - Assume 15* Jurisdictions
    - Floor Allocation:$50,000* each
  - Remaining need budget:$350,000*
    - Distributed based on proportion of regional pedestrian crashes occurring within your jurisdiction
- Jurisdiction and MORPC select final locations based on cost estimates

*Illustrative

Where are we now?

1. Jurisdictions are finalizing and submitting a potential location list (**July 31st**)
2. After lists are submitted, the prioritization process will begin



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