

VISION ZERO LOUISVILLE



Public Works Committee

June 14, 2022

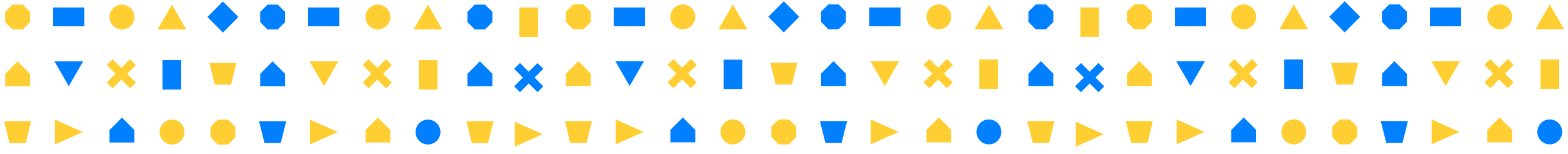
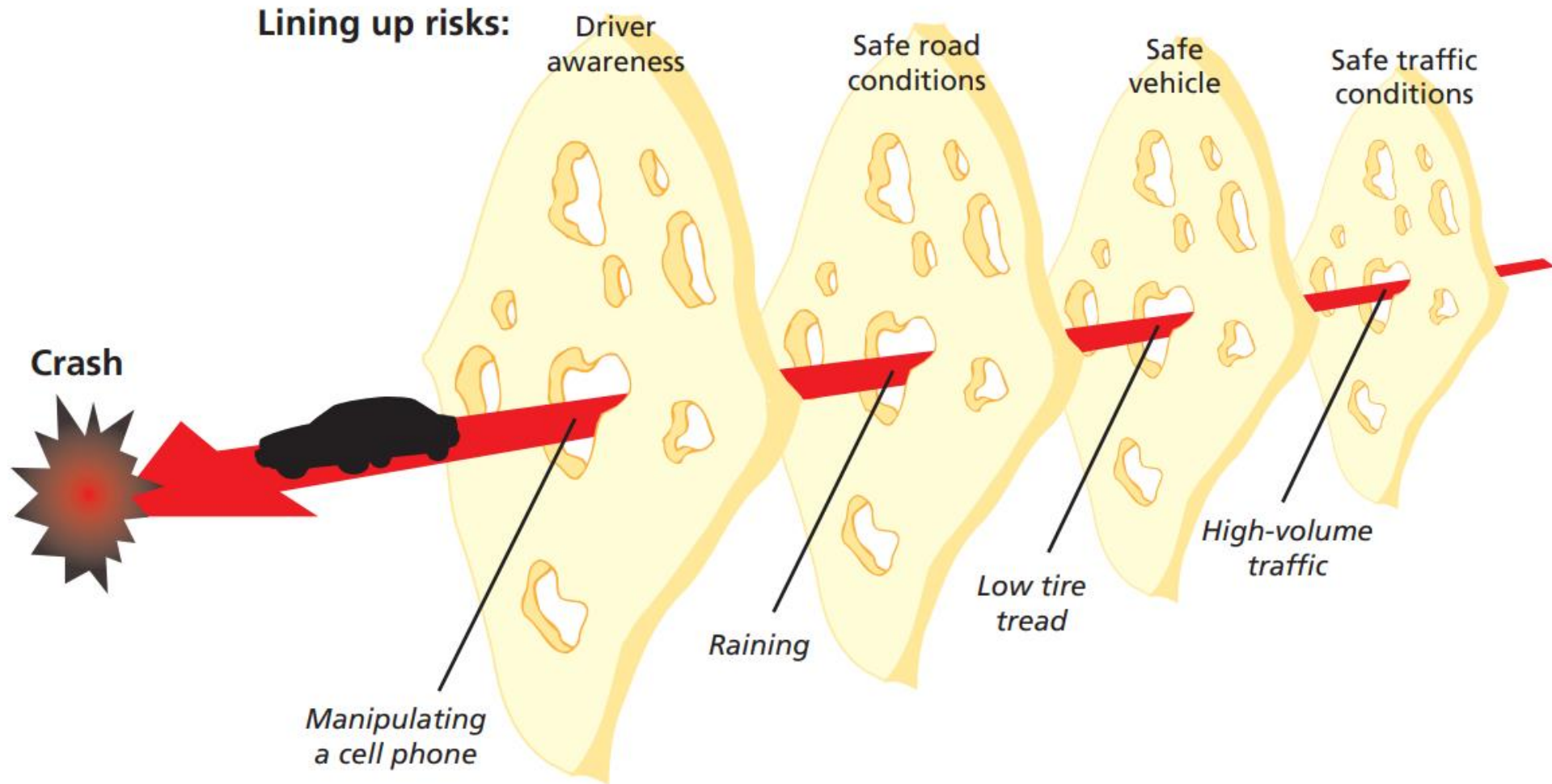


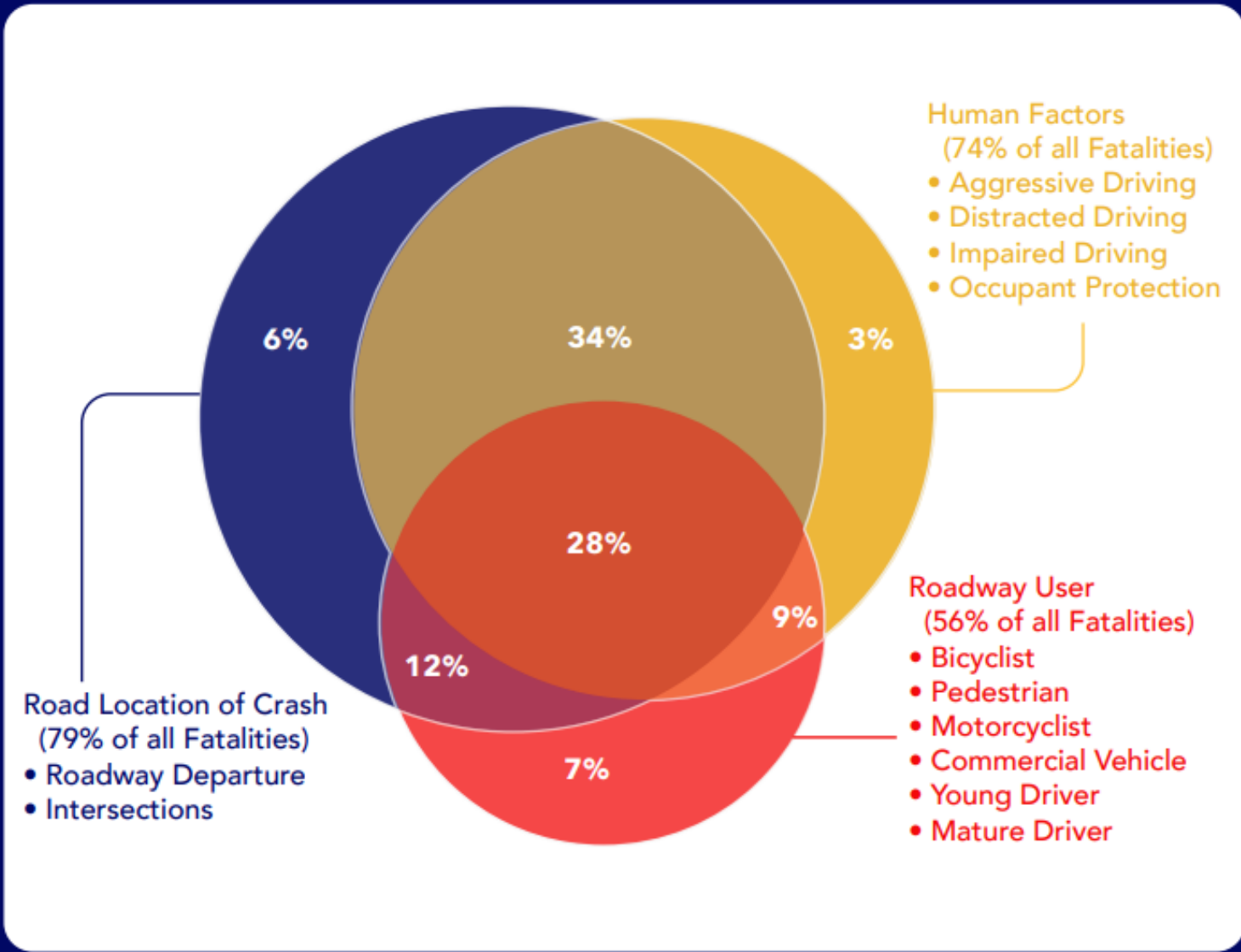
Figure 1.3
Swiss Cheese Model of Crash Causation



SOURCES: Adapted from Seppa (2013) and Reason (2000).

RAND RR2333-1.3

Crashes are rarely caused by a single contributing factor. Commonly, it is a combination of factors which collectively lead to a crash outcome. The graphic below shows the interconnectivity of three different types of contributing factors over five years of fatal crashes (not to scale).



Cost of Vision Zero Projects

Proven Safety Countermeasure	Cost Range (per FHWA)	Safety Benefit
Signal Backplates	\$180 each	15% reduction in crashes ¹
Advance Yield Line	\$320 each	23-48% reduction in crashes ²
High visibility crosswalk	\$600 - \$5,700	23-48% reduction in crashes ²
Curb extension	\$2,000 - \$20,000	23-48% reduction in crashes ²
Pedestrian Refuge Island	\$2,140 - \$41,170	56% reduction in pedestrian crashes ³
RRFB: Rectangular Rapid-Flashing Beacon	\$4,500 - \$52,000	47% reduction in pedestrian crashes ⁴
Roundabout	Varies based on context. Average annual savings of \$5,000 per year in electricity and maintenance costs.	78-82% reduction in fatal and injury crashes ⁵
Lighting	Varies based on fixture type and utility service agreement.	28-42% reduction in crashes ⁶

Sources:

- 1) [FHWA PSC Backplates](#)
- 2) [FHWA PSC Crosswalk Visibility Enhancements](#)
- 3) [FHWA PSC Pedestrian Refuge Island](#)
- 4) [FHWA PSC RRFB](#)
- 5) [FHWA PSC Roundabouts](#)
- 6) [FHWA PSC Lighting](#)

Impacts to Businesses



Higher employment levels



Net new businesses



Higher property values and private investment



Smart Growth America
Planning Neighborhoods, Growing Together

National Complete
Streets Coalition

SAFER STREETS, STRONGER ECONOMIES

Complete Streets project outcomes
from across the country



MARCH 2015

Economic Impact to Society

Table 34. Recommended national KABCO comprehensive crash unit costs for the FHWA BCA Guide and Tool (2016 dollars).

	Severity	Comprehensive Crash Unit Costs
Killed	K	\$11,295,400
Incapacitating Injury	A	\$655,000
Non-Incapacitating Injury	B	\$198,500
Possible Injury	C	\$125,600
Property Damage Only	O	\$11,900

Economic Impact to Society

¹

Severity	Comprehensive Crash Unit Costs
K	\$11,295,400

Year	Total Fatalities ² (Non-Interstate)	Societal Costs (Tangible + Intangible)
2014	85	\$960,109,000
2015	95	\$1,073,063,000
2016	115	\$1,298,971,000
2017	128	\$1,445,811,200
2018	97	\$1,095,653,800
2019	109	\$1,231,198,600
2020	140	\$1,581,356,000
2021	129	\$1,457,106,600
2022 (through 3/31/2022)	33	\$372,748,200
TOTAL	931	\$10,516,017,400

Sources:

1) [FHWA](#) "Crash Costs for Highway Safety Analysis"

2) [Vision Zero Louisville](#) "Crash Dashboard"

Success of our Safety Improvements

Crash Type	Transforming Dixie Highway (TIGER Grant)		Brownsboro Road Rightsizing		Grinstead Drive Rightsizing	
	Crashes Per Year		Crashes Per Year		Crashes Per Year	
	Before	After	Before	After	Before	After
PDO Crashes	549.0	120.0	34.0	20.9	7.0	3.8
Injury Crashes	112.0	32.5	6.5	4.0	0.7	1.0
Fatal Crashes	1.7	1.5	0	0.1	0	0
Total Crashes	1,067.7	154.0	40.5	25.0	7.7	4.8

Who is the national Vision Zero Network?

- **Non-Profit Organization**

- Act as an independent body for management, strategy, and development
- Staffed by experts in:
 - Non-Profits, Public Policy, Research, Urban/Transportation Planning, Public Health, and Law

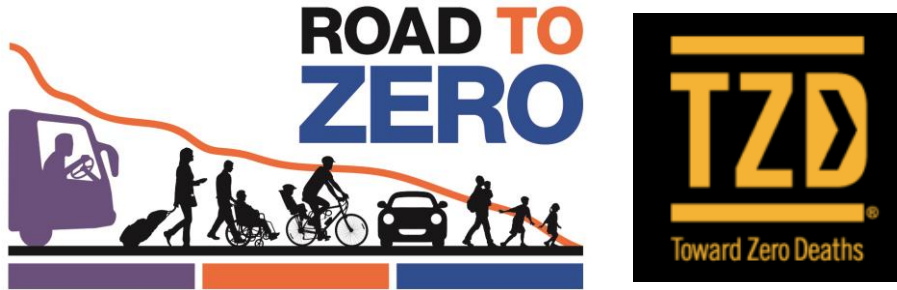
- **Financially supported by:**

- Individual donations (typically families of victims)
- Corporate Sponsorships

- *Community Initiatives*, whose sole purpose is to provide professional services (accounting, audit, legal, etc.) to non-profits.



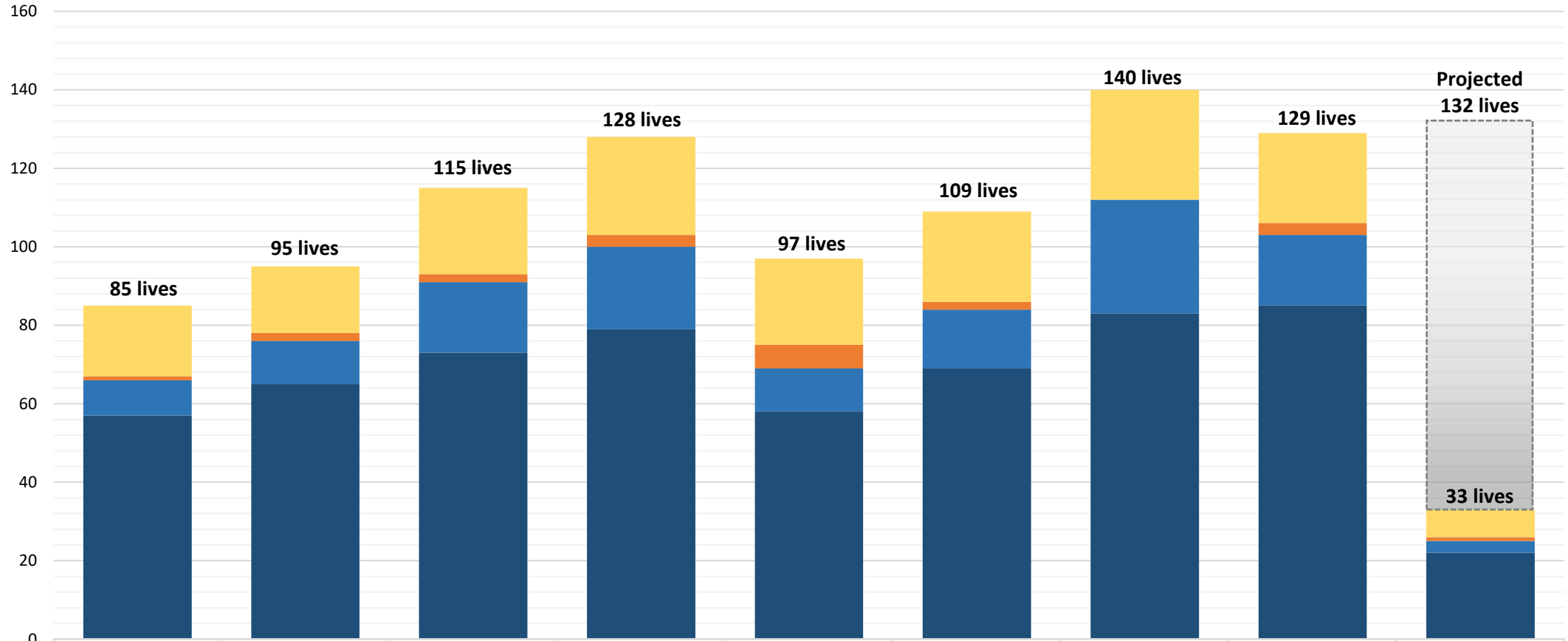
Who supports the Safe Systems Approach?



Federal Partners



Roadway Fatalities* in Louisville January 2014 - March 2022



	2014	2015	2016	2017	2018	2019	2020	2021	2022 through 3/31/2022
■ Pedestrian	18	17	22	25	22	23	28	23	7
■ Bicycle	1	2	2	3	6	2	0	3	1
■ Motorcycle	9	11	18	21	11	15	29	18	3
■ Motor Vehicle	57	65	73	79	58	69	83	85	22

*Non-Interstate

Source: [Vision Zero Louisville "Crash Dashboard"](#)