

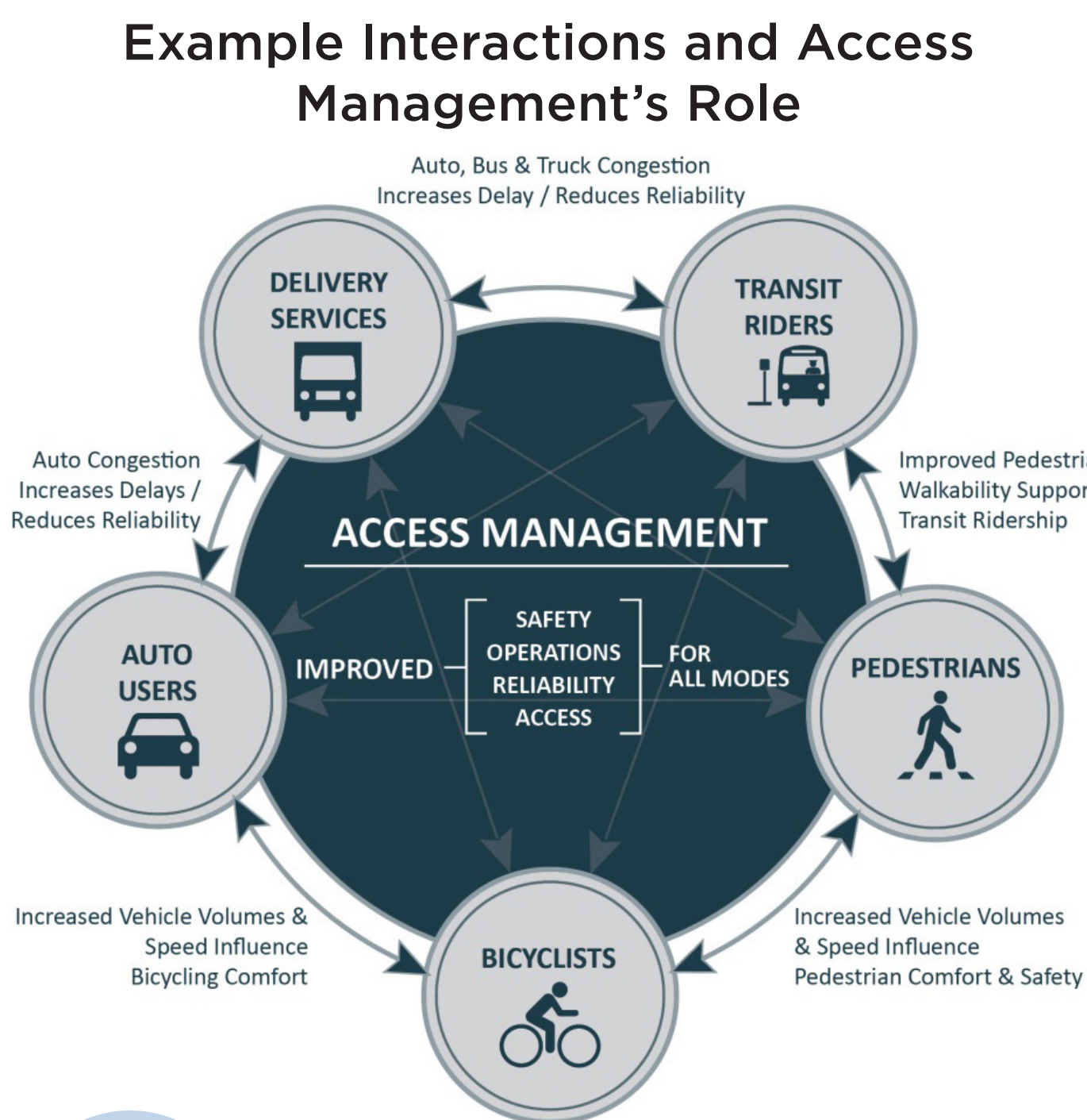
Multimodal Corridor Access Management

Assessing Interactions Between Access Management Treatments and Multimodal Users

NCHRP 03-120

PROBLEM STATEMENT

Well-designed access management plans, policies, and design treatments have safety, capacity, and delay benefits for more than just automobile drivers. Access management treatments can benefit transit passengers, bicyclists, pedestrians, and the delivery of goods (trucks). Current analytical tools, such as the HSM, the HCM, and microsimulation and mesoscopic (Dynamic Traffic Assignment) models, lack procedures for quantitatively evaluating these benefits. Because of this, the multimodal benefits of access management might be underestimated, causing agencies to avoid applying access management treatments at all or to select treatments or combinations of treatments that may adversely affect some street users.



TASK 1: REVIEW LITERATURE AND CURRENT STATE OF THE PRACTICE

- 33 Tier 1 documents were identified and reviewed to:
 - Identify access management techniques being used
 - Characterize expected effects on operations and safety
 - Identify quantitative relationships to evaluate:
 - Proposed application of an access management technique
 - Change in design or control affecting the technique's performance

TASK 2: IDENTIFY INTERACTIONS BETWEEN ACCESS MANAGEMENT TECHNIQUES AND TRAVEL MODES

Technique	Operations				Safety			
	Ped	Bike	Transit	Truck	Ped	Bike	Transit	Truck
NCHRP 420 (20)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Interchanges (3)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Frontage Roads (3)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Medians - LT (12)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Right Turns (2)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Access Location (9)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Traffic Controls (9)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative
Access Design (17)	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative	Quantitative

LEGEND:
■ Quantitative effect
■ Qualitative effect
■ Possible effect
■ No effect

RESEARCH OBJECTIVES

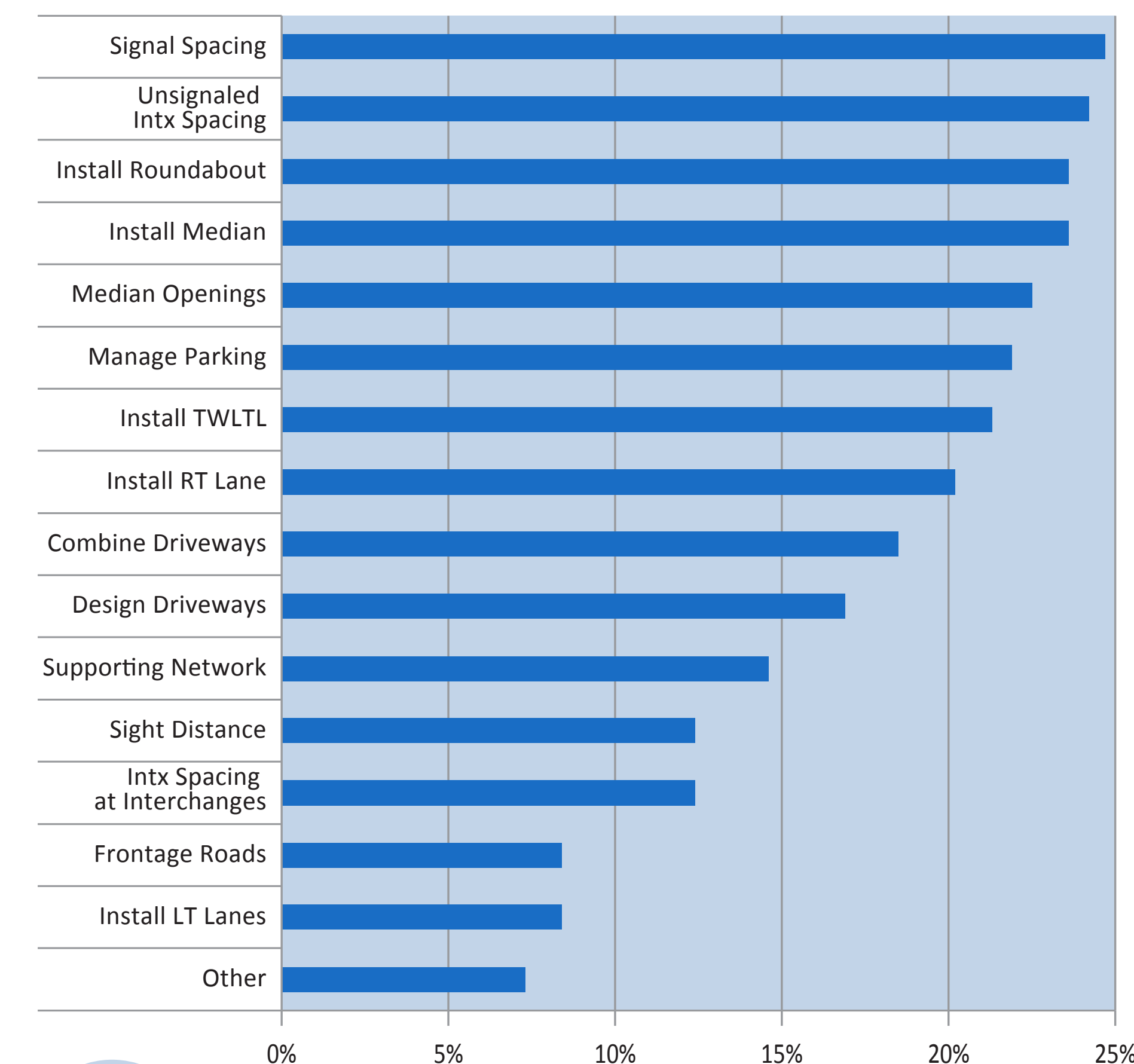
The objectives of this research project are:

- To identify and determine unknown relationship definitions between access management treatments and the various users/modes along multimodal corridors
- To develop the quantitative information that can result in analysis guidelines and software, and be incorporated into publications such as the AASHTO Green Book, HSM, and HCM
- To document the qualitative best practices for street and urban design considerations of access management measures

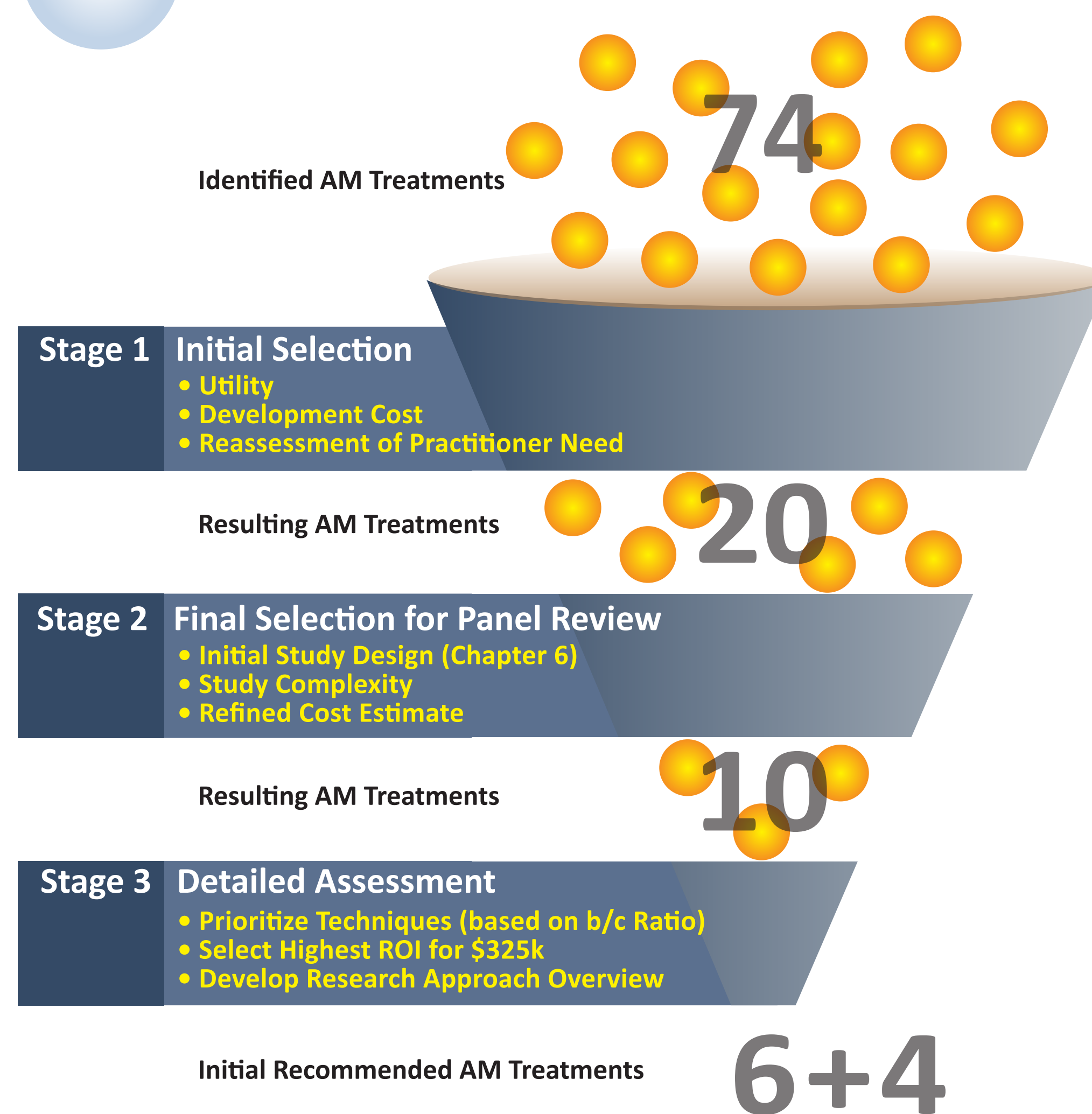
The products of this research will enable public agencies to accurately evaluate the true benefits of access management treatments, identify and quantify the design/operational trade-offs, and select appropriate access management treatments that benefit all street users (auto, transit, pedestrian, bicyclist, and freight).

TASK 3: SURVEY OF AGENCY NEEDS TO QUANTIFY MODAL ACCESS MANAGEMENT ENHANCEMENTS TO CORRIDORS

Analysis Priorities from Survey (178 responses)



TASK 4: ASSESS DATA AND INFORMATION NEEDS



Task 5: Submit Interim Report 1

Access Management Treatments Recommended for Further Study (in prioritized order):

No.	Short Title	Original Title in Interim Report
1	Driveway design	Install driveways with the appropriate return radii, throat width, and throat length for the type of traffic to be served.
2	Right-turn deceleration	4a. Install right-turn deceleration lane
3	TWLTL vs restrictive (non-traversable) median	(none)
4	Corner clearance	1c. Establish corner clearance criteria
5	Signal spacing	1a. Establish traffic signal spacing criteria
6	Median barrier w/no lefts)	B-3-1 Install median barrier with no direct left-turn ingress or egress
7	Replace parking	B-6-8 Replace curb parking with off-street parking
8	Relocate access	6b. Locate/relocate the intersection of a parallel frontage road and a crossroad farther from the arterial-crossroad intersection
9	Roundabout	B-6-10 Install roundabout

FUTURE Phase 2 TASKS

- Task 6: Corridor Selection & Data Collection
- Task 7: Development of Quantitative Measurement Tools
- Task 8: Development of Multimodal Access Management Qualitative Best Practices and Identification of Further Research Needs
- Task 9: Development of a Multimodal Corridor Access Management Analysis Guide
- Task 10: Preparation of Final Report
- Task 11: Access Management Multimodal Analysis Implementation Support



TRANSPORTATION RESEARCH BOARD
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