

Appendices to Contractor's Final Report for NCHRP Project 08-106

Appendix A: Survey Instrument

Aff_1 What is your affiliation? *

Public Sector:

- Federal government (1)
- State DOT (2)
- MPO/Regional agency (3)
- Local government (4)
- Consultant (public sector clients related to urban freight activity) (5)
- University (6)
- Community development organizations (13)
- Nonprofit organizations (14)
- Other (please specify) (7) _____

Private Sector:

- Shipper (8)
- Receiver (9)
- Carrier (10)
- Consultant (private sector clients related to urban freight activity) (11)
- Truck driver (Owner-operator) (16)
- Truck driver (Company driver) (15)
- Other (please specify) (12) _____

Answer this question if the affiliation is selected from Public Sector:

Aff2_Pub What best describes your current position?

- Upper management (1)
- Transportation planner (2)
- Freight planner/specialist (3)
- Other (please specify) (4) _____

Answer this question if the affiliation is selected from Private Sector:

Aff2_Prvt What best describes your current position?

- Logistics manager (1)
- Customer service (2)
- Operations (3)
- Service design/engineering (5)
- Sales & marketing (6)
- Driver manager (7)
- Route manager (8)
- Dispatcher (9)
- Other (please specify) (4) _____

Aff_3 May we contact you for additional information?

- Yes (1)
- No (2)

Answer this question if Yes is selected in previous question

Aff_4 Please provide your name and contact information, so that we may follow-up if necessary.

- Name: (1)
- Phone: (3)
- Email: (4)

This text is only displayed for Public Sector

Please answer the questions to the best of your abilities and provide enough detail for the researchers to understand your response. Complete the survey no later than January 26, 2017.

Completing the Survey - When taking this survey, it may be useful to have documents at hand that contain information about urban freight transportation strategies that your agency or organization has developed or implemented.

Survey Length—Required survey responses will take approximately 20 minutes to complete. The survey will be available online for responding from January 3, 2017 to January 26, 2017. Progression through the survey will be tracked by a bar at the top of the screen indicating percent complete.

Required Responses - All items with a * require a response to move forward within the survey.

Moving Within the Survey—You will be able to move back and forth within the survey. Please use the “back” and “next” buttons within the survey. Use of the browser “back” and “forward” arrows will result in lost responses!

Saving the Survey—The computer will automatically save any survey responses you have made and you can come back to it later on the same computer and browser. When you reach the last page of the survey, do not click “Submit” until you are completely finished. When you click the “Submit” button on the last page, you will be unable to change your responses or regain access to the electronic survey.

This text is only displayed for Private Sector

Please answer the questions to the best of your abilities and provide enough detail for the researchers to understand your response. Complete the survey no later than January 26, 2017.

Survey Length—Required survey responses will take approximately 20 minutes to complete and will be available online from January 3, 2017 to January 26, 2017. Progression through the survey will be tracked by a bar at the top of the screen indicating percent complete.

Required Responses - All items with a * require a response to move forward within the survey.

Moving Within the Survey—You will be able to move back and forth within the survey. Please use the “back” and “next” buttons within the survey. Use of the browser “back” and “forward” arrows will result in lost responses!

Saving the Survey—The computer will automatically save any survey responses you have made and you can come back to it later on the same computer and browser. When you reach the last page of the survey, do not click “Submit” until you are completely finished. When you click the “Submit” button on the last page, you will be unable to change your responses or regain access to the electronic survey.

Q1 Which of the following urban freight transportation strategies has your agency/organization implemented, or has your agency/organization/company been impacted by, or is your agency/organization currently implementing? Select all that apply. *

- multimodal/intermodal distribution (1)
- use of varied vehicle types and/or fuels (2)
- intelligent transportation systems (ITS) (3)
- designated truck routes (4)
- intermodal freight connectors (5)
- geometric modifications (6)
- multiuse lanes or shared lanes (7)
- peak-hour clearways/parking restrictions (8)
- on-street truck parking and loading zones (9)
- off-street parking and loading requirements (10)
- truck parking reservation systems (11)
- preferential zoning (12)
- intermodal logistics centers (ILC) (13)
- urban consolidation centers (UCC) (14)
- voluntary off-peak deliveries (15)
- alternate pickup/delivery locations (16)
- freight advisory committees (17)
- allowing trucks to travel in generally restricted areas (18)
- reduced taxes and fees (19)
- innovative loans and subsidies (20)
- freight activity center designation in land use plan (21)
- develop an urban freight plan (22)
- effective freight policy implementation (23)
- road pricing/tolling (24)
- freight partnerships (25)
- access control (26)
- freight management (27)
- urban logistics service (28)
- other #1 (please specify) (29) _____
- other #2 (please specify) (30) _____
- other #3 (please specify) (31) _____
- none of the above (32)

Q1_1 Below are the strategies you **did not select** in question 1. For these strategies that were not successfully implemented, please select a reason why. Select all that apply.

Strategy	Unfamiliar with the strategy	Too costly	Public opposition	Lack of policy maker support	Not sure	Tried, but were not successful	Not applicable	Other (Please specify)	Other (Please specify)	Other (Please specify)
multimodal/intermodal distribution (15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
use of varied vehicle types and/or fuels (16)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
intelligent transportation systems (ITS) (17)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
designated truck routes (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
intermodal freight connectors (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
geometric modifications (32)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
multiuse lanes or shared lanes (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
peak-hour clearways/parking restrictions (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
on-street truck parking and loading zones (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
off-street parking and loading requirements (33)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
truck parking reservation systems (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
preferential zoning (13)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
intermodal logistics centers (ILC) (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
urban consolidation centers (UCC) (10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
voluntary off-peak deliveries (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
alternate pickup/delivery locations (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
freight advisory committees (34)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
allowing trucks to travel in generally restricted areas (35)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
reduced taxes and fees (36)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
innovative loans and subsidies (37)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
freight activity center designation in land use plan (11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
develop an urban freight plan (38)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Strategy	Unfamiliar with the strategy	Too costly	Public opposition	Lack of policy maker support	Not sure	Tried, but were not successful	Not applicable	Other (Please specify)	Other (Please specify)	Other (Please specify)
effective freight policy implementation (14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
road pricing/tolling (12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
freight partnerships (42)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
access control (39)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
freight management (40)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
urban logistics service (41)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Answer this question if more than 3 strategies were selected in question 1

Q1_2 Please specify the top three most beneficial or successful strategies out of the ones you selected in question 1.*

{You have selected a Max of three strategies in either Q1 or Q1_2. Please answer the following questions regarding each of those strategies you selected.}

Strategy#1 (Please write the name of the strategy): _____

Q1_3_S#1 From the following list, please select which problems strategy#1 was aimed at solving. Select all that apply. *

- Urban area freight-related environmental problems (1)
- Urban area freight-related social problems (2)
- Urban area freight-related economic problems (3)
- Urban area freight-related land use problems (4)
- Urban area freight-related technical problems (5)
- Urban area freight-related institutional problems (6)
- Urban freight stakeholder-involved challenges (7)
- Urban freight logistics operational issues (8)
- Urban area freight-related safety problems (58)
- Urban freight- infrastructure (51)
- Other #1 (please specify) (55) _____
- Other #2 (please specify) (56) _____
- Other #3 (please specify) (57) _____

Q2_S#1 What factors do you feel are most critical to the implementation of strategy#1? Please rate the factors on a scale of 0="Not important at all" to 10="Extremely important".

- _____ Public outreach and education (1)
- _____ Direct stakeholder involvement (2)
- _____ Stakeholder education (3)
- _____ Effective signage (4)
- _____ Cost sharing (5)
- _____ Internal training on how to implement the strategy (6)
- _____ Enforcement (7)
- _____ Staffing and/organizational capacity (8)
- _____ Institutional commitment to implementation of the strategy (51)
- _____ Monitoring and evaluation of the strategy (52)
- _____ Pilot application or special studies (53)
- _____ Political support and/or project champion (54)
- _____ Current research demonstrating effectiveness and/or implementation steps (58)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q3_S#1 Assuming the implementation of the strategy#1 distribution is occurring, is there anything else you would like to tell us that has accelerated your implementation?

Q4_S#1 What are the major barriers to implementing strategy#1? Please rate the factors on a scale of 0="Not significant at all" to 10="Extremely significant".

- _____ Cost and lack of funding (1)
- _____ Staffing/organizational capacity (2)
- _____ Lack of policy maker support (3)
- _____ Right-of-way constraints (4)
- _____ Neighborhood opposition (5)
- _____ Business/receiver opposition (6)
- _____ Opposition by truckers/delivery (7)
- _____ Lack of interagency coordination (8)
- _____ Lack of data/processing ability (58)
- _____ Environmental concerns (51)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q5_S#1 Is there anything else you would like to add regarding the primary barriers you noted in the question above?

Strategy#2 (Please write the name of the strategy): _____

Q1_3_S#2 From the following list, please select which problems strategy#2 was aimed at solving. Select all that apply. *

- Urban area freight-related environmental problems (1)
- Urban area freight-related social problems (2)
- Urban area freight-related economic problems (3)
- Urban area freight-related land use problems (4)
- Urban area freight-related technical problems (5)
- Urban area freight-related institutional problems (6)
- Urban freight stakeholder-involved challenges (7)
- Urban freight logistics operational issues (8)
- Urban area freight-related safety problems (58)
- Urban freight- infrastructure (51)
- Other #1 (please specify) (55) _____
- Other #2 (please specify) (56) _____
- Other #3 (please specify) (57) _____

Q2_S#2 What factors do you feel are most critical to the implementation of strategy#2? Please rate the factors on a scale of 0="Not important at all" to 10="Extremely important".

- _____ Public outreach and education (1)
- _____ Direct stakeholder involvement (2)
- _____ Stakeholder education (3)
- _____ Effective signage (4)
- _____ Cost sharing (5)
- _____ Internal training on how to implement the strategy (6)
- _____ Enforcement (7)
- _____ Staffing and/organizational capacity (8)
- _____ Institutional commitment to implementation of the strategy (51)
- _____ Monitoring and evaluation of the strategy (52)
- _____ Pilot application or special studies (53)
- _____ Political support and/or project champion (54)
- _____ Current research demonstrating effectiveness and/or implementation steps (58)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q3_S#2 Assuming the implementation of the strategy#2 distribution is occurring, is there anything else you would like to tell us that has accelerated your implementation?

Q4_S#2 What are the major barriers to implementing strategy#2? Please rate the factors on a scale of 0="Not significant at all" to 10="Extremely significant".

- _____ Cost and lack of funding (1)
- _____ Staffing/organizational capacity (2)
- _____ Lack of policy maker support (3)
- _____ Right-of-way constraints (4)
- _____ Neighborhood opposition (5)
- _____ Business/receiver opposition (6)
- _____ Opposition by truckers/delivery (7)
- _____ Lack of interagency coordination (8)
- _____ Lack of data/processing ability (58)
- _____ Environmental concerns (51)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q5_S#2 Is there anything else you would like to add regarding the primary barriers you noted in the question above?

Strategy#3 (Please write the name of the strategy): _____

Q1_3_S#3 From the following list, please select which problems strategy#3 was aimed at solving. Select all that apply. *

- Urban area freight-related environmental problems (1)
- Urban area freight-related social problems (2)
- Urban area freight-related economic problems (3)
- Urban area freight-related land use problems (4)
- Urban area freight-related technical problems (5)
- Urban area freight-related institutional problems (6)
- Urban freight stakeholder-involved challenges (7)
- Urban freight logistics operational issues (8)
- Urban area freight-related safety problems (58)
- Urban freight- infrastructure (51)
- Other #1 (please specify) (55) _____
- Other #2 (please specify) (56) _____
- Other #3 (please specify) (57) _____

Q2_S#3 What factors do you feel are most critical to the implementation of strategy#3? Please rate the factors on a scale of 0="Not important at all" to 10="Extremely important".

- _____ Public outreach and education (1)
- _____ Direct stakeholder involvement (2)
- _____ Stakeholder education (3)
- _____ Effective signage (4)
- _____ Cost sharing (5)
- _____ Internal training on how to implement the strategy (6)
- _____ Enforcement (7)
- _____ Staffing and/organizational capacity (8)
- _____ Institutional commitment to implementation of the strategy (51)
- _____ Monitoring and evaluation of the strategy (52)
- _____ Pilot application or special studies (53)
- _____ Political support and/or project champion (54)
- _____ Current research demonstrating effectiveness and/or implementation steps (58)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q3_S#3 Assuming the implementation of the strategy#3 distribution is occurring, is there anything else you would like to tell us that has accelerated your implementation?

Q4_S#3 What are the major barriers to implementing strategy#3? Please rate the factors on a scale of 0="Not significant at all" to 10="Extremely significant".

- _____ Cost and lack of funding (1)
- _____ Staffing/organizational capacity (2)
- _____ Lack of policy maker support (3)
- _____ Right-of-way constraints (4)
- _____ Neighborhood opposition (5)
- _____ Business/receiver opposition (6)
- _____ Opposition by truckers/delivery (7)
- _____ Lack of interagency coordination (8)
- _____ Lack of data/processing ability (58)
- _____ Environmental concerns (51)
- _____ Other #1 (please specify) (55)
- _____ Other #2 (please specify) (56)
- _____ Other #3 (please specify) (57)

Q5_S#3 Is there anything else you would like to add regarding the primary barriers you noted in the question above?

Q6 Can you please share any further documentation (reports, studies, pilot tests, freight plans, and/or internet links) that describe significant urban freight strategy implementation? If there are any available reports, please send us these reports via e-mail at freightsurvey@cutr.usf.edu.

Q7 Do you measure your return on investment for metropolitan freight transportation strategies?

- Yes. Please describe the measures, methods and evaluation frequency used. If there are available documents, please provide the url or send available reports via e-mail at freightsurvey@cutr.usf.edu.
(1) _____
- No (2)

Q8 Do you measure the results and impacts of metropolitan freight transportation strategies?

- Yes. Please briefly explain. If there are available documents, please provide the url or send available reports via e-mail at freightsurvey@cutr.usf.edu. (1) _____
- No (2)

Q9 Have we missed anything important relative to the implementation of urban freight strategies? Please discuss it briefly.

Answer this question if your affiliation is one of the following: Shipper, Receiver, Carrier, Consultant (private sector clients related to urban freight activity), Truck driver (Company driver), or Truck driver (Owner-operator)

Q10 To help us understand how these strategies could be tailored to more effectively meet your needs, please tell us more about your company. Which of the following best describes your company's business? (Mark all that apply)

- Food and beverage (1)
- Grocery (2)
- Intermodal drayage (3)
- Agriculture or farming activities (4)
- Forestry or lumbering activities (5)
- Construction work—buildings, homes, roads, structures, etc. (6)
- Manufacturing, refining, processing activities (7)
- Mining, quarrying, and oil and gas extraction (8)
- Wholesale trade (9)
- Retail trade (10)
- Business and personal services (11)
- Utilities-telephone, gas, electric, cable television, etc. (12)
- Common carrier- offer transportation service to the general public (16)
- Contract carrier- offer transportation service to certain shippers under specific contract (17)
- Warehousing and distribution center (14)
- Other (please specify) (15) _____
- Other (please specify) (20) _____
- Other (please specify) (21) _____

Answer this question if Common Carrier or Contract Carrier was selected in the previous question

Q11 What transportation services does your company provide? (Select all that apply) *

- Distribution and Warehousing (1)
- Parcel (2)
- Air Freight Specialist (3)
- Freight Forwarder (4)
- Drayage (5)
- Other (please specify) (6) _____
- Other (please specify) (7) _____
- Other (please specify) (8) _____

Answer this question if your affiliation is one of the following: Shipper, Truck driver (Company driver) or Truck driver (Owner-operator)

Q12 How often does your company use the following modes for freight transportation?

	Always (14)	Often (15)	Sometimes (16)	Rarely (17)	Never (18)
Truck (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rail (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Truck-rail Intermodal (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maritime/Water (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air-courier (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Answer this question if your affiliation is one of the following: Carrier, Truck driver (Company driver), or Truck driver (Owner-operator)

Q13 What type of equipment does your company primarily use in urban areas? Please select all that apply.

- Cargo vans (4)
- Single unit trucks (2)
- Pups (1)
- Tractor-trailers (48'/53') (5)
- Other (please specify) (6) _____

Q_Last Thank you for completing our survey. We truly value the information you have provided. If there are any other reports and/or documents regarding additional guidance in implementing urban freight strategies, please send them via email to freightsurvey@cutr.usf.edu.

Appendix B: Results of Strategy Facilitators and Barriers

This appendix includes:

- Detailed survey results of weights by strategy.
- Rankings (by strategy) of top facilitators (by facilitator score) and top barriers (by barrier scores).
- Final (post-workshop) average weight values based upon the aggregated pre-workshop and post-workshop feedback.

Detailed Survey Results of Weights by Strategy

Table B-1. Results for Key Facilitators for Implementation of Freight Strategies

Strategies	Public Outreach and Education	Direct Stakeholder Involvement	Stakeholder Education	Effective Signage	Cost Sharing	Internal Training on How to Implement the Strategy	Enforcement
MULTIMODAL/INTERMODAL DISTRIBUTION	6.2	9.0	7.4	4.2	5.4	4.3	3.6
USE OF VARIED VEHICLE TYPES AND/OR FUELS	4.8	6.8	6.1	3.2	6.2	6.5	4.3
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	6.2	7.1	7.3	7.7	5.9	6.1	5.2
DESIGNATED TRUCK ROUTES	6.9	7.9	7.0	7.2	2.9	4.0	6.4
INTERMODAL FREIGHT CONNECTORS	6.7	9.1	7.3	6.1	6.8	5.3	4.8
GEOMETRIC MODIFICATIONS	5.3	7.3	6.0	5.8	4.0	5.5	4.5
MULTIUSE LANES OR SHARED LANES	5.5	5.0	4.5	5.5	7.0	4.0	4.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	9.5	9.5	9.5	9.0	3.5	5.5	9.0
ON-STREET TRUCK PARKING AND LOADING ZONES	5.3	8.0	6.0	8.8	2.7	4.6	7.8
OFF-STREET PARKING AND LOADING REQUIREMENTS	3.0	3.5	3.5	8.5	3.0	4.5	8.5
TRUCK PARKING RESERVATION SYSTEMS	4.8	4.8	5.5	5.8	3.5	2.5	6.3
INTERMODAL LOGISTICS CENTERS (ILC)	7.8	7.8	7.8	4.6	6.7	5.3	4.7
URBAN CONSOLIDATION CENTERS (UCC)	2.0	8.8	1.5	2.0	3.8	1.3	2.0
VOLUNTARY OFF-PEAK DELIVERIES	5.6	9.9	9.0	3.5	5.3	5.8	4.4
ALTERNATE PICKUP/DELIVERY LOCATIONS	4.5	5.0	5.0	4.0	2.5	5.0	7.5
FREIGHT ADVISORY COMMITTEES	6.7	9.4	8.5	1.4	2.4	4.2	1.9
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	8.0	6.7	5.3	7.3	0.7	1.7	1.7
INNOVATIVE LOANS AND SUBSIDIES	6.0	9.4	8.4	1.4	9.0	1.6	2.8
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	5.9	8.1	6.4	2.7	3.1	4.7	3.1
DEVELOP AN URBAN FREIGHT PLAN	7.8	9.0	8.1	2.4	3.7	5.7	3.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	8.4	7.7	1.1	3.2	3.8	1.4
ROAD PRICING/TOLLING	6.3	6.8	6.0	7.5	4.5	4.3	6.5
FREIGHT PARTNERSHIPS	5.6	9.8	8.2	1.7	3.9	3.8	1.7
ACCESS CONTROL	7.3	5.7	6.4	6.1	2.7	5.6	5.4
FREIGHT MANAGEMENT	5.9	5.6	6.1	4.1	4.6	5.0	4.5
URBAN LOGISTICS SERVICE	0.0	9.5	4.5	4.0	4.5	3.5	3.5

Table B-1. Results for Key Facilitators for Implementation of Freight Strategies (Continued)

Strategies	Staffing and Organizational Capacity	Institutional Commitment to Implementation of the Strategy	Monitoring and Evaluation of the Strategy	Pilot Application or Special Studies	Political Support and/or Project Champion	Current Research Demonstrating Effectiveness and/or Implementation Steps
MULTIMODAL/INTERMODAL DISTRIBUTION	5.7	7.2	5.3	3.9	7.3	4.2
USE OF VARIED VEHICLE TYPES AND/OR FUELS	5.6	7.3	6.2	6.7	6.8	6.8
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	6.2	7.8	7.3	7.2	8.0	7.0
DESIGNATED TRUCK ROUTES	4.0	6.8	5.0	3.6	7.5	3.6
INTERMODAL FREIGHT CONNECTORS	4.7	8.0	6.6	5.1	8.3	6.4
GEOMETRIC MODIFICATIONS	5.3	7.6	6.1	5.6	7.2	5.5
MULTIUSE LANES OR SHARED LANES	5.0	6.5	4.0	1.0	10.0	2.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	6.5	8.0	6.5	7.0	9.0	4.0
ON-STREET TRUCK PARKING AND LOADING ZONES	5.2	6.6	5.9	3.5	5.6	3.9
OFF-STREET PARKING AND LOADING REQUIREMENTS	4.5	8.0	4.0	3.0	3.0	3.0
TRUCK PARKING RESERVATION SYSTEMS	4.0	7.0	4.0	3.3	5.3	5.5
INTERMODAL LOGISTICS CENTERS (ILC)	6.3	6.4	5.8	5.9	7.9	5.0
URBAN CONSOLIDATION CENTERS (UCC)	3.5	4.3	5.8	4.3	4.5	4.0
VOLUNTARY OFF-PEAK DELIVERIES	6.0	8.3	8.4	8.3	8.3	7.0
ALTERNATE PICKUP/DELIVERY LOCATIONS	4.0	7.0	4.5	5.0	6.5	5.0
FREIGHT ADVISORY COMMITTEES	6.6	7.4	5.4	3.1	7.0	3.3
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	0.7	5.7	0.7	1.3	2.3	2.7
INNOVATIVE LOANS AND SUBSIDIES	4.2	8.8	5.6	4.2	9.2	4.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	6.0	7.0	4.1	2.2	7.6	3.4
DEVELOP AN URBAN FREIGHT PLAN	6.6	7.1	6.8	4.1	8.2	4.7
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.9	9.1	6.9	4.3	9.1	5.4
ROAD PRICING/TOLLING	3.8	6.5	6.0	6.0	7.5	6.3
FREIGHT PARTNERSHIPS	7.1	8.2	5.5	4.3	7.6	5.1
ACCESS CONTROL	4.4	6.4	5.6	1.9	7.3	4.7
FREIGHT MANAGEMENT	5.4	4.4	5.4	3.8	4.3	4.5
URBAN LOGISTICS SERVICE	3.0	4.5	4.0	4.0	4.5	3.5

Table B-2. Results for Key Barriers for the Implementation of Freight Strategies

Strategies	Cost and Lack of Funding	Staffing/ Organizational Capacity	Lack of Policy Maker Support	Right-of-Way Constraints	Neighborhood Opposition
MULTIMODAL/INTERMODAL DISTRIBUTION	7.2	5.8	6.0	4.9	4.9
USE OF VARIED VEHICLE TYPES AND/OR FUELS	9.0	4.7	5.5	1.8	3.0
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	7.1	6.0	4.3	2.8	1.7
DESIGNATED TRUCK ROUTES	6.1	5.3	7.0	6.0	6.5
INTERMODAL FREIGHT CONNECTORS	8.7	6.2	6.5	7.0	6.4
GEOMETRIC MODIFICATIONS	7.8	4.6	5.5	6.6	4.1
MULTIUSE LANES OR SHARED LANES	8.5	4.5	6.5	7.0	7.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	5.0	6.5	9.0	8.0	9.5
ON-STREET TRUCK PARKING AND LOADING ZONES	5.0	5.9	3.9	5.0	4.0
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.0	2.0	2.0	2.5	5.5
TRUCK PARKING RESERVATION SYSTEMS	3.5	2.8	3.3	3.8	6.3
INTERMODAL LOGISTICS CENTERS (ILC)	7.6	4.7	3.9	3.6	5.1
URBAN CONSOLIDATION CENTERS (UCC)	8.3	1.5	4.8	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	5.1	4.1	5.9	2.0	6.4
ALTERNATE PICKUP/DELIVERY LOCATIONS	5.5	3.5	1.5	4.0	1.5
FREIGHT ADVISORY COMMITTEES	3.3	6.3	5.6	0.7	0.7
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	0.7	0.7	2.3	4.3	7.3
INNOVATIVE LOANS AND SUBSIDIES	7.2	5.0	5.4	3.4	1.8
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.7	5.6	7.4	1.6	4.1
DEVELOP AN URBAN FREIGHT PLAN	5.9	7.1	5.9	2.7	2.7
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	6.8	6.4	1.7	2.8
ROAD PRICING/TOLLING	5.7	3.7	5.2	3.5	3.5
FREIGHT PARTNERSHIPS	4.9	6.5	5.2	1.4	1.7
ACCESS CONTROL	3.7	4.3	7.1	4.7	4.4
FREIGHT MANAGEMENT	6.7	7.6	4.0	4.1	2.6
URBAN LOGISTICS SERVICE	8.5	3.0	4.5	0.5	0.5

Table B-2. Results for Key Barriers for the Implementation of Freight Strategies (Continued)

Strategies	Business/ Receiver Opposition	Opposition by Truckers/ Delivery	Lack of Interagency Coordination	Lack of Data/Processing Ability	Environmental Concerns
MULTIMODAL/INTERMODAL DISTRIBUTION	4.3	3.9	5.7	3.4	4.4
USE OF VARIED VEHICLE TYPES AND/OR FUELS	4.4	3.4	3.5	1.9	1.6
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	2.1	2.1	3.9	3.7	1.5
DESIGNATED TRUCK ROUTES	5.7	6.1	7.1	4.4	5.7
INTERMODAL FREIGHT CONNECTORS	3.8	3.6	5.7	3.3	4.3
GEOMETRIC MODIFICATIONS	2.7	3.0	5.2	3.3	4.8
MULTIUSE LANES OR SHARED LANES	2.5	2.5	3.5	4.0	6.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	8.0	4.0	9.0	6.0	2.0
ON-STREET TRUCK PARKING AND LOADING ZONES	3.3	3.6	3.5	5.4	1.4
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.5	2.5	2.5	2.5	2.0
TRUCK PARKING RESERVATION SYSTEMS	3.8	4.8	1.3	3.0	3.3
INTERMODAL LOGISTICS CENTERS (ILC)	3.4	3.5	5.4	2.5	4.2
URBAN CONSOLIDATION CENTERS (UCC)	0.0	2.5	0.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	6.9	1.7	3.9	3.0	1.6
ALTERNATE PICKUP/DELIVERY LOCATIONS	0.0	1.5	4.5	2.5	2.0
FREIGHT ADVISORY COMMITTEES	1.5	1.3	4.8	2.9	1.0
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	4.0	1.0	2.3	0.7	5.3
INNOVATIVE LOANS AND SUBSIDIES	1.4	1.4	4.2	1.4	3.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.9	1.9	7.4	3.3	2.9
DEVELOP AN URBAN FREIGHT PLAN	2.7	2.0	5.0	3.5	1.9
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	2.3	2.9	4.3	2.7	1.9
ROAD PRICING/TOLLING	5.2	5.0	3.2	1.7	1.7
FREIGHT PARTNERSHIPS	1.3	1.4	4.4	2.6	1.7
ACCESS CONTROL	7.3	5.3	7.3	1.6	1.9
FREIGHT MANAGEMENT	3.4	4.0	5.0	3.7	2.0
URBAN LOGISTICS SERVICE	3.0	2.5	0.5	2.5	0.5

Table B-3. Key Facilitators for All Respondents

Strategies	Public Outreach and Education	Direct Stakeholder Involvement	Stakeholder Education	Effective Signage	Cost Sharing	Internal Training on How to Implement the Strategy	Enforcement
MULTIMODAL/ INTERMODAL DISTRIBUTION	6.2	9.0	7.4	4.2	5.4	4.3	3.6
USE OF VARIED VEHICLE TYPES AND/OR FUELS	4.8	6.8	6.1	3.2	6.2	6.5	4.3
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	6.2	7.1	7.3	7.7	5.9	6.1	5.2
DESIGNATED TRUCK ROUTES	6.9	7.9	7.0	7.2	2.9	4.0	6.4
INTERMODAL FREIGHT CONNECTORS	6.7	9.1	7.3	6.1	6.8	5.3	4.8
GEOMETRIC MODIFICATIONS	5.3	7.3	6.0	5.8	4.0	5.5	4.5
MULTIUSE LANES OR SHARED LANES	5.5	5.0	4.5	5.5	7.0	4.0	4.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	9.5	9.5	9.5	9.0	3.5	5.5	9.0
ON-STREET TRUCK PARKING AND LOADING ZONES	5.3	8.0	6.0	8.8	2.7	4.6	7.8
OFF-STREET PARKING AND LOADING REQUIREMENTS	3.0	3.5	3.5	8.5	3.0	4.5	8.5
TRUCK PARKING RESERVATION SYSTEMS	4.8	4.8	5.5	5.8	3.5	2.5	6.3
INTERMODAL LOGISTICS CENTERS (ILC)	7.8	7.8	7.8	4.6	6.7	5.3	4.7
URBAN CONSOLIDATION CENTERS (UCC)	2.0	8.8	1.5	2.0	3.8	1.3	2.0
VOLUNTARY OFF-PEAK DELIVERIES	5.6	9.9	9.0	3.5	5.3	5.8	4.4
ALTERNATE PICKUP/DELIVERY LOCATIONS	4.5	5.0	5.0	4.0	2.5	5.0	7.5
FREIGHT ADVISORY COMMITTEES	6.7	9.4	8.5	1.4	2.4	4.2	1.9
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	8.0	6.7	5.3	7.3	0.7	1.7	1.7
INNOVATIVE LOANS AND SUBSIDIES	6.0	9.4	8.4	1.4	9.0	1.6	2.8
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	5.9	8.1	6.4	2.7	3.1	4.7	3.1
DEVELOP AN URBAN FREIGHT PLAN	7.8	9.0	8.1	2.4	3.7	5.7	3.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	8.4	7.7	1.1	3.2	3.8	1.4
ROAD PRICING/TOLLING	6.3	6.8	6.0	7.5	4.5	4.3	6.5
FREIGHT PARTNERSHIPS	5.6	9.8	8.2	1.7	3.9	3.8	1.7
ACCESS CONTROL	7.3	5.7	6.4	6.1	2.7	5.6	5.4
FREIGHT MANAGEMENT	5.9	5.6	6.1	4.1	4.6	5.0	4.5
URBAN LOGISTICS SERVICE	0.0	9.5	4.5	4.0	4.5	3.5	3.5

Table B-3. Key Facilitators for All Respondents (Continued)

Strategies	Staffing and/ Organizational Capacity	Institutional Commitment to Implementation of the Strategy	Monitoring and Evaluation of the Strategy	Pilot Application or Special Studies	Political Support and/or Project Champion	Current Research Demonstrating Effectiveness and/or Implementation Steps
MULTIMODAL/ INTERMODAL DISTRIBUTION	5.7	7.2	5.3	3.9	7.3	4.2
USE OF VARIED VEHICLE TYPES AND/OR FUELS	5.6	7.3	6.2	6.7	6.8	6.8
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	6.2	7.8	7.3	7.2	8.0	7.0
DESIGNATED TRUCK ROUTES	4.0	6.8	5.0	3.6	7.5	3.6
INTERMODAL FREIGHT CONNECTORS	4.7	8.0	6.6	5.1	8.3	6.4
GEOMETRIC MODIFICATIONS	5.3	7.6	6.1	5.6	7.2	5.5
MULTIUSE LANES OR SHARED LANES	5.0	6.5	4.0	1.0	10.0	2.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	6.5	8.0	6.5	7.0	9.0	4.0
ON-STREET TRUCK PARKING AND LOADING ZONES	5.2	6.6	5.9	3.5	5.6	3.9
OFF-STREET PARKING AND LOADING REQUIREMENTS	4.5	8.0	4.0	3.0	3.0	3.0
TRUCK PARKING RESERVATION SYSTEMS	4.0	7.0	4.0	3.3	5.3	5.5
INTERMODAL LOGISTICS CENTERS (ILC)	6.3	6.4	5.8	5.9	7.9	5.0
URBAN CONSOLIDATION CENTERS (UCC)	3.5	4.3	5.8	4.3	4.5	4.0
VOLUNTARY OFF-PEAK DELIVERIES	6.0	8.3	8.4	8.3	8.3	7.0
ALTERNATE PICKUP/DELIVERY LOCATIONS	4.0	7.0	4.5	5.0	6.5	5.0
FREIGHT ADVISORY COMMITTEES	6.6	7.4	5.4	3.1	7.0	3.3
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	0.7	5.7	0.7	1.3	2.3	2.7
INNOVATIVE LOANS AND SUBSIDIES	4.2	8.8	5.6	4.2	9.2	4.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	6.0	7.0	4.1	2.2	7.6	3.4
DEVELOP AN URBAN FREIGHT PLAN	6.6	7.1	6.8	4.1	8.2	4.7
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.9	9.1	6.9	4.3	9.1	5.4
ROAD PRICING/TOLLING	3.8	6.5	6.0	6.0	7.5	6.3
FREIGHT PARTNERSHIPS	7.1	8.2	5.5	4.3	7.6	5.1
ACCESS CONTROL	4.4	6.4	5.6	1.9	7.3	4.7
FREIGHT MANAGEMENT	5.4	4.4	5.4	3.8	4.3	4.5
URBAN LOGISTICS SERVICE	3.0	4.5	4.0	4.0	4.5	3.5

Table B-4. Key Barriers for All Respondents

Strategies	Cost and Lack of Funding	Staffing/ Organizational Capacity	Lack of Policy Maker Support	Right-of-Way Constraints	Neighborhood Opposition
MULTIMODAL/ INTERMODAL DISTRIBUTION	7.2	5.8	6.0	4.9	4.9
USE OF VARIED VEHICLE TYPES AND/OR FUELS	9.0	4.7	5.5	1.8	3.0
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	7.1	6.0	4.3	2.8	1.7
DESIGNATED TRUCK ROUTES	6.1	5.3	7.0	6.0	6.5
INTERMODAL FREIGHT CONNECTORS	8.7	6.2	6.5	7.0	6.4
GEOMETRIC MODIFICATIONS	7.8	4.6	5.5	6.6	4.1
MULTIUSE LANES OR SHARED LANES	8.5	4.5	6.5	7.0	7.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	5.0	6.5	9.0	8.0	9.5
ON-STREET TRUCK PARKING AND LOADING ZONES	5.0	5.9	3.9	5.0	4.0
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.0	2.0	2.0	2.5	5.5
TRUCK PARKING RESERVATION SYSTEMS	3.5	2.8	3.3	3.8	6.3
INTERMODAL LOGISTICS CENTERS (ILC)	7.6	4.7	3.9	3.6	5.1
URBAN CONSOLIDATION CENTERS (UCC)	8.3	1.5	4.8	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	5.1	4.1	5.9	2.0	6.4
ALTERNATE PICKUP/DELIVERY LOCATIONS	5.5	3.5	1.5	4.0	1.5
FREIGHT ADVISORY COMMITTEES	3.3	6.3	5.6	0.7	0.7
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	0.7	0.7	2.3	4.3	7.3
INNOVATIVE LOANS AND SUBSIDIES	7.2	5.0	5.4	3.4	1.8
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.7	5.6	7.4	1.6	4.1
DEVELOP AN URBAN FREIGHT PLAN	5.9	7.1	5.9	2.7	2.7
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	6.8	6.4	1.7	2.8
ROAD PRICING/TOLLING	5.7	3.7	5.2	3.5	3.5
FREIGHT PARTNERSHIPS	4.9	6.5	5.2	1.4	1.7
ACCESS CONTROL	3.7	4.3	7.1	4.7	4.4
FREIGHT MANAGEMENT	6.7	7.6	4.0	4.1	2.6
URBAN LOGISTICS SERVICE	8.5	3.0	4.5	0.5	0.5

Table B-4. Key Barriers for All Respondents (Continued)

Strategies	Business/ Receiver Opposition	Opposition by Truckers/Delivery	Lack of Interagency Coordination	Lack of Data/Processing Ability	Environmental Concerns
MULTIMODAL/ INTERMODAL DISTRIBUTION	4.3	3.9	5.7	3.4	4.4
USE OF VARIED VEHICLE TYPES AND/OR FUELS	4.4	3.4	3.5	1.9	1.6
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	2.1	2.1	3.9	3.7	1.5
DESIGNATED TRUCK ROUTES	5.7	6.1	7.1	4.4	5.7
INTERMODAL FREIGHT CONNECTORS	3.8	3.6	5.7	3.3	4.3
GEOMETRIC MODIFICATIONS	2.7	3.0	5.2	3.3	4.8
MULTIUSE LANES OR SHARED LANES	2.5	2.5	3.5	4.0	6.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	8.0	4.0	9.0	6.0	2.0
ON-STREET TRUCK PARKING AND LOADING ZONES	3.3	3.6	3.5	5.4	1.4
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.5	2.5	2.5	2.5	2.0
TRUCK PARKING RESERVATION SYSTEMS	3.8	4.8	1.3	3.0	3.3
INTERMODAL LOGISTICS CENTERS (ILC)	3.4	3.5	5.4	2.5	4.2
URBAN CONSOLIDATION CENTERS (UCC)	0.0	2.5	0.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	6.9	1.7	3.9	3.0	1.6
ALTERNATE PICKUP/DELIVERY LOCATIONS	0.0	1.5	4.5	2.5	2.0
FREIGHT ADVISORY COMMITTEES	1.5	1.3	4.8	2.9	1.0
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	4.0	1.0	2.3	0.7	5.3
INNOVATIVE LOANS AND SUBSIDIES	1.4	1.4	4.2	1.4	3.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.9	1.9	7.4	3.3	2.9
DEVELOP AN URBAN FREIGHT PLAN	2.7	2.0	5.0	3.5	1.9
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	2.3	2.9	4.3	2.7	1.9
ROAD PRICING/TOLLING	5.2	5.0	3.2	1.7	1.7
FREIGHT PARTNERSHIPS	1.3	1.4	4.4	2.6	1.7
ACCESS CONTROL	7.3	5.3	7.3	1.6	1.9
FREIGHT MANAGEMENT	3.4	4.0	5.0	3.7	2.0
URBAN LOGISTICS SERVICE	3.0	2.5	0.5	2.5	0.5

Table B-5. Key Facilitators for Public-Sector Respondents

Strategies	Public Outreach and Education	Direct Stakeholder Involvement	Stakeholder Education	Effective Signage	Cost Sharing	Internal Training on How to Implement the Strategy	Enforcement
MULTIMODAL/ INTERMODAL DISTRIBUTION	6.6	8.9	7.2	4.7	5.3	4.1	3.6
USE OF VARIED VEHICLE TYPES AND/OR FUELS	5.4	9.1	7.1	3.3	7.6	6.7	4.9
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	5.5	6.8	6.4	6.5	4.5	5.9	4.0
DESIGNATED TRUCK ROUTES	7.1	7.9	7.2	7.1	3.0	4.1	6.4
INTERMODAL FREIGHT CONNECTORS	5.2	8.4	5.9	5.0	5.5	3.8	3.8
GEOMETRIC MODIFICATIONS	4.7	6.5	5.3	5.2	3.1	4.9	2.7
MULTIUSE LANES OR SHARED LANES	5.5	5.0	4.5	5.5	7.0	4.0	4.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	9.5	9.5	9.5	9.0	3.5	5.5	9.0
ON-STREET TRUCK PARKING AND LOADING ZONES	6.6	7.9	7.5	8.9	3.4	5.8	8.5
OFF-STREET PARKING AND LOADING REQUIREMENTS	3.0	3.5	3.5	8.5	3.0	4.5	8.5
INTERMODAL LOGISTICS CENTERS (ILC)	7.1	7.8	7.1	3.8	7.2	3.8	3.3
URBAN CONSOLIDATION CENTERS (UCC)	4.0	10.0	3.0	4.0	4.5	2.5	4.0
VOLUNTARY OFF-PEAK DELIVERIES	6.0	10.0	9.3	3.0	4.3	5.3	4.3
FREIGHT ADVISORY COMMITTEES	6.7	9.4	8.5	1.5	2.5	4.2	2.0
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	8.0	6.0	4.0	8.0	1.0	2.5	2.5
INNOVATIVE LOANS AND SUBSIDIES	5.3	9.5	8.3	1.3	9.8	1.5	3.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	5.6	8.1	6.9	2.9	3.4	5.1	3.4
DEVELOP AN URBAN FREIGHT PLAN	7.8	9.1	8.1	2.4	3.7	5.6	3.1
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.9	8.9	8.1	1.2	3.4	4.0	1.5
ROAD PRICING/TOLLING	7.6	8.2	7.2	9.0	5.4	5.2	7.8
FREIGHT PARTNERSHIPS	5.6	9.8	8.2	1.7	3.9	3.8	1.7
ACCESS CONTROL	7.3	6.3	5.8	7.0	3.0	4.8	4.7
FREIGHT MANAGEMENT	5.0	5.5	6.3	2.8	5.0	4.8	4.7
URBAN LOGISTICS SERVICE	0.0	9.5	4.5	4.0	4.5	3.5	3.5

Table B-5. Key Facilitators for Public-Sector Respondents (Continued)

Strategies	Staffing and Organizational Capacity	Institutional Commitment to Implementation of the Strategy	Monitoring and Evaluation of the Strategy	Pilot Application or Special Studies	Political Support and/or Project Champion	Current Research Demonstrating Effectiveness and/or Implementation Steps
MULTIMODAL/ INTERMODAL DISTRIBUTION	5.8	7.1	5.5	3.9	7.7	4.3
USE OF VARIED VEHICLE TYPES AND/OR FUELS	6.0	7.7	8.3	9.0	9.3	9.4
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	6.0	7.1	6.9	6.7	7.4	6.3
DESIGNATED TRUCK ROUTES	4.1	7.2	5.3	3.7	8.0	3.8
INTERMODAL FREIGHT CONNECTORS	3.9	7.0	5.7	3.7	7.3	4.9
GEOMETRIC MODIFICATIONS	3.5	7.6	5.1	4.7	5.6	4.3
MULTIUSE LANES OR SHARED LANES	5.0	6.5	4.0	1.0	10.0	2.5
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	6.5	8.0	6.5	7.0	9.0	4.0
ON-STREET TRUCK PARKING AND LOADING ZONES	6.5	8.3	6.4	4.4	6.0	4.9
OFF-STREET PARKING AND LOADING REQUIREMENTS	4.5	8.0	4.0	3.0	3.0	3.0
INTERMODAL LOGISTICS CENTERS (ILC)	5.8	5.2	4.3	4.3	6.0	3.6
URBAN CONSOLIDATION CENTERS (UCC)	2.5	4.5	7.5	8.5	9.0	8.0
VOLUNTARY OFF-PEAK DELIVERIES	6.7	7.3	8.7	9.0	5.7	8.3
FREIGHT ADVISORY COMMITTEES	6.5	7.6	5.5	3.2	7.0	3.3
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	1.0	8.5	1.0	2.0	3.5	4.0
INNOVATIVE LOANS AND SUBSIDIES	4.8	8.5	5.5	3.8	9.0	3.5
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	6.3	7.0	3.8	1.9	7.3	3.0
DEVELOP AN URBAN FREIGHT PLAN	6.8	7.0	6.7	4.0	8.2	4.8
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.9	9.0	7.4	4.6	9.0	5.8
ROAD PRICING/TOLLING	4.6	7.8	7.2	7.2	9.0	7.2
FREIGHT PARTNERSHIPS	7.1	8.2	5.5	4.3	7.6	5.1
ACCESS CONTROL	4.3	5.8	5.2	2.0	6.8	5.3
FREIGHT MANAGEMENT	4.7	3.8	5.0	3.0	4.5	4.2
URBAN LOGISTICS SERVICE	3.0	4.5	4.0	4.0	4.5	3.5

Table B-6. Key Barriers for Public-Sector Respondents

Strategies	Cost and Lack of Funding	Staffing/ Organizational Capacity	Lack of Policy Maker Support	Right-of-Way Constraints	Neighborhood Opposition
MULTIMODAL/ INTERMODAL DISTRIBUTION	7.7	5.8	6.3	4.9	5.4
USE OF VARIED VEHICLE TYPES AND/OR FUELS	9.1	5.1	6.7	1.9	3.3
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	7.1	6.0	4.4	3.0	1.9
DESIGNATED TRUCK ROUTES	4.6	4.2	5.6	3.6	5.5
INTERMODAL FREIGHT CONNECTORS	8.8	5.0	6.2	5.7	5.7
GEOMETRIC MODIFICATIONS	7.8	4.6	5.5	6.6	4.1
MULTIUSE LANES OR SHARED LANES	8.5	4.5	6.5	7.0	7.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	5.0	6.5	9.0	8.0	9.5
ON-STREET TRUCK PARKING AND LOADING ZONES	4.4	7.0	5.6	4.4	5.7
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.0	2.0	2.0	2.5	5.5
INTERMODAL LOGISTICS CENTERS (ILC)	8.0	4.7	3.9	4.0	4.7
URBAN CONSOLIDATION CENTERS (UCC)	9.0	0.0	9.5	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	5.0	7.0	7.0	3.3	7.0
FREIGHT ADVISORY COMMITTEES	3.3	6.4	5.7	0.7	0.8
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	1.0	1.0	3.5	6.5	6.5
INNOVATIVE LOANS AND SUBSIDIES	9.0	5.7	6.0	2.7	2.0
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.9	5.8	7.1	1.6	3.6
DEVELOP AN URBAN FREIGHT PLAN	5.9	7.2	5.8	2.6	2.6
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.3	6.7	6.3	1.8	2.8
ROAD PRICING/TOLLING	6.6	4.4	6.2	4.2	4.2
FREIGHT PARTNERSHIPS	4.9	6.5	5.2	1.4	1.7
ACCESS CONTROL	4.2	4.3	6.7	5.2	5.0
FREIGHT MANAGEMENT	6.0	7.8	4.4	2.6	1.8
URBAN LOGISTICS SERVICE	8.5	3.0	4.5	0.5	0.5

Table B-6. Key Barriers for Public-Sector Respondents (Continued)

Strategies	Opposition by Truckers/Delivery	Lack of Interagency Coordination	Lack of Data/Processing Ability	Environmental Concerns
MULTIMODAL/ INTERMODAL DISTRIBUTION	4.1	5.7	3.2	5.1
USE OF VARIED VEHICLE TYPES AND/OR FUELS	3.9	3.1	2.4	2.0
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	2.3	3.7	3.4	1.6
DESIGNATED TRUCK ROUTES	4.5	5.1	2.5	3.4
INTERMODAL FREIGHT CONNECTORS	2.3	4.8	2.3	3.0
GEOMETRIC MODIFICATIONS	3.0	5.2	3.3	4.8
MULTIUSE LANES OR SHARED LANES	2.5	3.5	4.0	6.0
PEAK-HOUR CLEARWAYS/PARKING RESTRICTIONS	4.0	9.0	6.0	2.0
ON-STREET TRUCK PARKING AND LOADING ZONES	5.1	5.0	6.4	2.0
OFF-STREET PARKING AND LOADING REQUIREMENTS	2.5	2.5	2.5	2.0
INTERMODAL LOGISTICS CENTERS (ILC)	3.7	5.0	3.3	5.0
URBAN CONSOLIDATION CENTERS (UCC)	5.0	0.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	2.0	6.3	5.3	3.7
FREIGHT ADVISORY COMMITTEES	1.3	4.8	3.0	1.1
ALLOWING TRUCKS TO TRAVEL IN GENERALLY RESTRICTED AREAS	1.5	3.5	1.0	5.5
INNOVATIVE LOANS AND SUBSIDIES	1.3	4.0	1.3	2.3
FREIGHT ACTIVITY CENTER DESIGNATION IN LAND USE PLAN	2.0	7.4	3.6	2.1
DEVELOP AN URBAN FREIGHT PLAN	2.0	4.9	3.5	1.9
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	2.9	4.2	2.9	1.8
ROAD PRICING/TOLLING	6.0	3.8	2.0	2.0
FREIGHT PARTNERSHIPS	1.4	4.4	2.6	1.7
ACCESS CONTROL	5.0	6.8	1.7	2.0
FREIGHT MANAGEMENT	2.4	3.6	3.4	1.6
URBAN LOGISTICS SERVICE	2.5	0.5	2.5	0.5

Table B-7. Key Facilitators for Private-Sector Respondents

Strategies	Public Outreach and Education	Direct Stakeholder Involvement	Stakeholder Education	Effective Signage	Cost Sharing	Internal Training on How to Implement the Strategy	Enforcement
MULTIMODAL/ INTERMODAL DISTRIBUTION	4.0	9.0	9.0	1.3	6.0	5.7	3.3
USE OF VARIED VEHICLE TYPES AND/OR FUELS	5.0	4.5	5.5	3.8	3.0	7.5	4.5
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	3.3	6.7	4.3	5.0	3.3	4.0	2.0
DESIGNATED TRUCK ROUTES	5.3	7.7	6.3	7.7	2.0	3.3	6.7
INTERMODAL FREIGHT CONNECTORS	6.4	9.2	7.2	7.0	7.2	4.2	3.6
ON-STREET TRUCK PARKING AND LOADING ZONES	0.0	8.5	0.0	8.5	0.0	0.0	5.0
TRUCK PARKING RESERVATION SYSTEMS	5.0	3.7	4.7	4.3	1.7	1.7	5.0
INTERMODAL LOGISTICS CENTERS (ILC)	7.0	8.0	7.0	1.5	4.5	1.5	1.5
URBAN CONSOLIDATION CENTERS (UCC)	0.0	7.5	0.0	0.0	3.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	7.5	3.0	0.0	0.0	0.0	0.0	0.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	8.4	7.7	1.1	3.2	3.8	1.4
FREIGHT MANAGEMENT	8.5	6.0	5.5	8.0	3.5	5.5	4.0

Table B-7. Key Facilitators for Private-Sector Respondents (Continued)

Strategies	Staffing/ Organizational Capacity	Institutional Commitment to Implementation of the Strategy	Monitoring and Evaluation of the Strategy	Pilot Application or Special Studies	Political Support and/or Project Champion	Current Research Demonstrating Effectiveness and/or Implementation Steps
MULTIMODAL/ INTERMODAL DISTRIBUTION	5.0	8.0	4.3	4.0	5.0	3.7
USE OF VARIED VEHICLE TYPES AND/OR FUELS	6.3	6.0	4.0	4.3	4.3	4.0
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	2.3	9.0	5.7	5.7	6.3	5.3
DESIGNATED TRUCK ROUTES	3.3	4.3	3.0	3.0	4.3	2.3
INTERMODAL FREIGHT CONNECTORS	2.2	6.8	4.6	3.6	8.4	5.2
ON-STREET TRUCK PARKING AND LOADING ZONES	0.0	0.0	4.0	0.0	4.0	0.0
TRUCK PARKING RESERVATION SYSTEMS	3.3	6.7	2.7	1.7	4.7	4.7
INTERMODAL LOGISTICS CENTERS (ILC)	5.5	8.5	3.5	4.0	4.5	1.5
URBAN CONSOLIDATION CENTERS (UCC)	4.5	4.0	4.0	0.0	0.0	0.0
VOLUNTARY OFF- PEAK DELIVERIES	0.0	0.0	0.0	8.3	8.3	7.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.9	9.1	6.9	4.3	9.1	5.4
FREIGHT MANAGEMENT	7.5	6.0	6.5	6.0	3.5	5.5

Table B-8. Key Barriers for Private-Sector Respondents

Strategies	Cost and Lack of Funding	Staffing/ Organizational Capacity	Lack of Policy Maker Support	Right-of-Way Constraints	Neighborhood Opposition
MULTIMODAL/ INTERMODAL DISTRIBUTION	4.3	5.7	4.0	5.0	1.7
USE OF VARIED VEHICLE TYPES AND/OR FUELS	8.8	4.0	3.3	1.8	2.5
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	7.8	6.0	4.3	1.0	0.5
DESIGNATED TRUCK ROUTES	5.0	2.3	3.3	5.0	7.7
INTERMODAL FREIGHT CONNECTORS	8.0	4.4	6.2	7.8	6.4
ON-STREET TRUCK PARKING AND LOADING ZONES	9.5	5.0	0.0	9.5	0.0
TRUCK PARKING RESERVATION SYSTEMS	1.7	1.7	1.7	1.7	5.7
INTERMODAL LOGISTICS CENTERS (ILC)	6.0	5.0	6.0	4.0	4.0
URBAN CONSOLIDATION CENTERS (UCC)	7.5	3.0	0.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	5.3	2.0	5.0	1.0	6.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	6.5	6.8	6.4	1.7	2.8
FREIGHT MANAGEMENT	8.5	7.0	3.0	8.0	4.5

Table B-8. Key Barriers for Private-Sector Respondents (Continued)

Strategies	Opposition by Truckers/Delivery	Lack of Interagency Coordination	Lack of Data/Processing Ability	Environmental Concerns
MULTIMODAL/ INTERMODAL DISTRIBUTION	3.0	5.7	5.0	0.0
USE OF VARIED VEHICLE TYPES AND/OR FUELS	2.5	4.3	1.0	1.0
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	1.3	6.0	6.0	0.5
DESIGNATED TRUCK ROUTES	4.0	5.0	2.0	2.0
INTERMODAL FREIGHT CONNECTORS	3.6	6.0	2.4	4.6
ON-STREET TRUCK PARKING AND LOADING ZONES	0.0	0.0	4.5	0.0
TRUCK PARKING RESERVATION SYSTEMS	4.7	0.0	1.7	2.0
INTERMODAL LOGISTICS CENTERS (ILC)	2.0	4.5	1.0	1.0
URBAN CONSOLIDATION CENTERS (UCC)	0.0	0.0	0.0	0.0
VOLUNTARY OFF-PEAK DELIVERIES	1.5	2.0	1.3	0.0
EFFECTIVE FREIGHT POLICY IMPLEMENTATION	2.9	4.3	2.7	1.9
FREIGHT MANAGEMENT	8.0	8.5	4.5	3.0

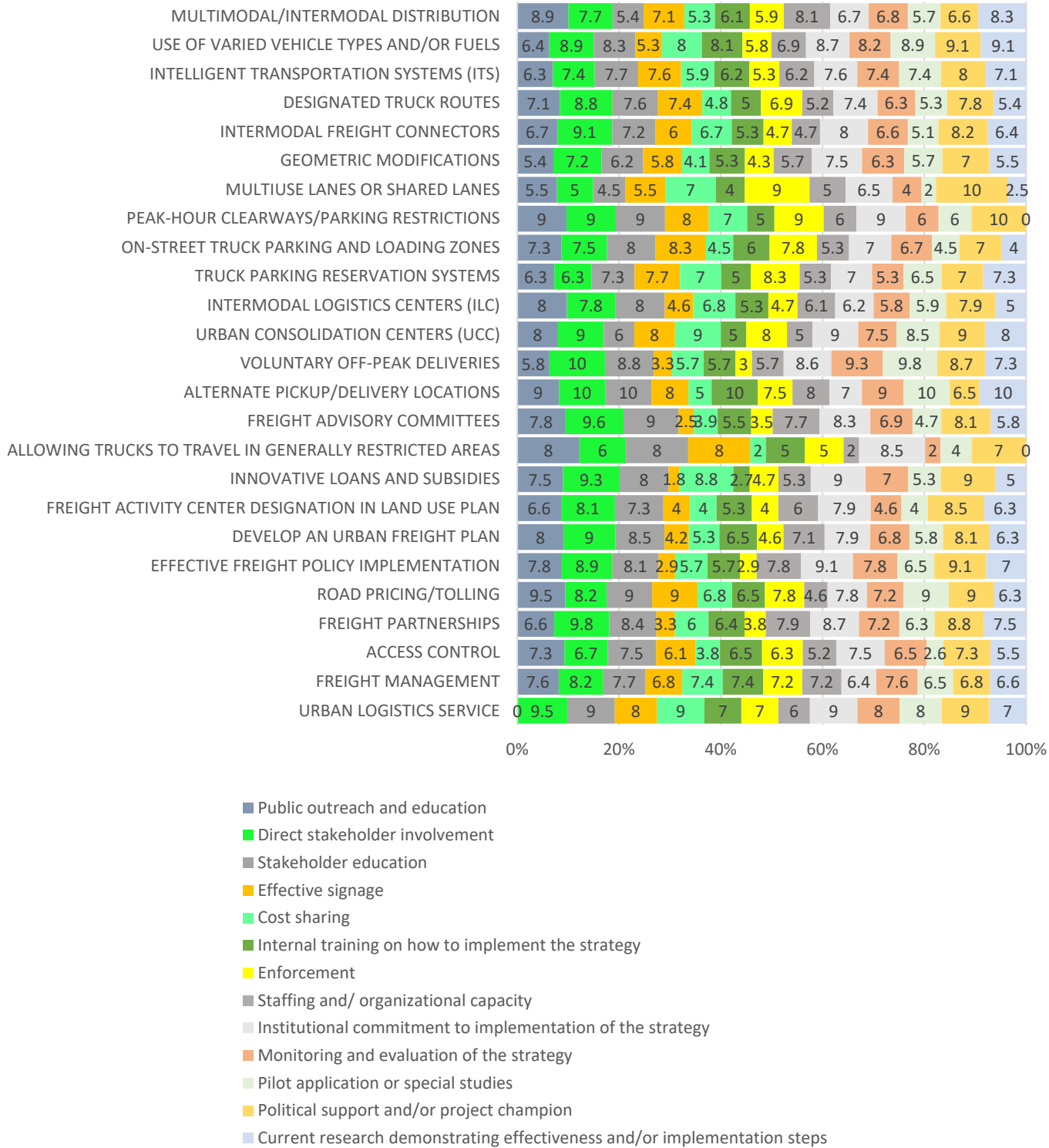


Figure B-1. Strategies vs. Mean Perceived Potential Facilitators

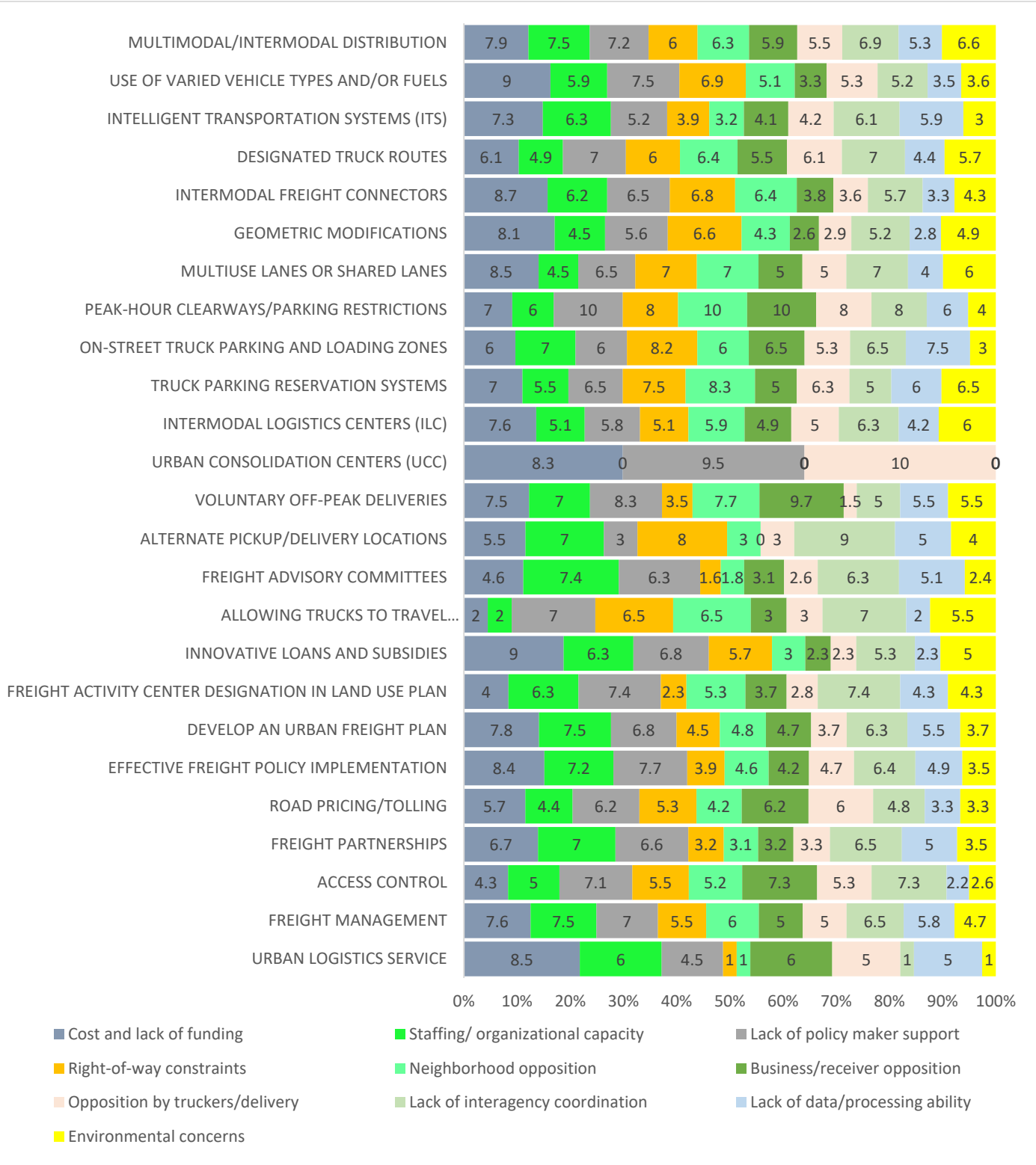


Figure B-2. Strategies vs. Mean Perceived Potential Barriers

Rankings (by Strategy) of Top Facilitators (by Facilitator Scores) and Top Barriers (by Barrier Scores)

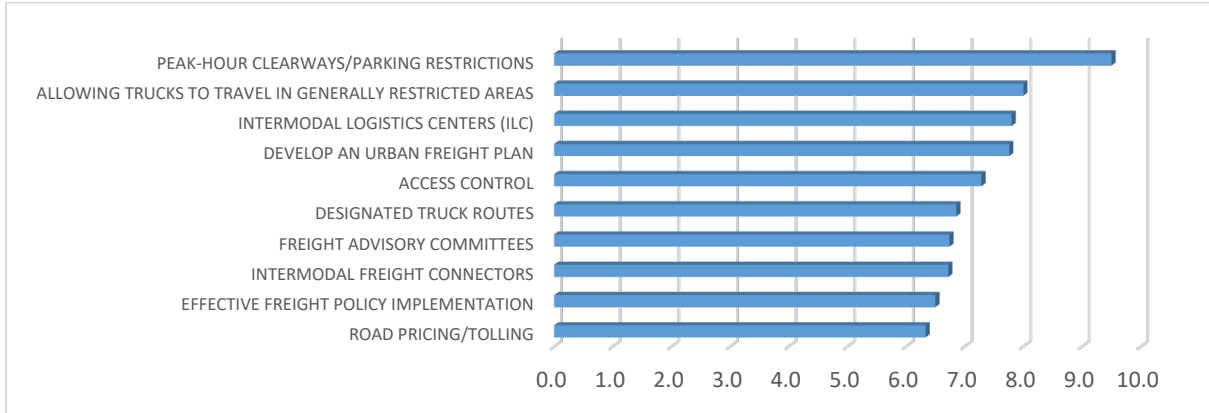


Figure B-3. Top Strategies Accelerated by “Public Outreach and Education”

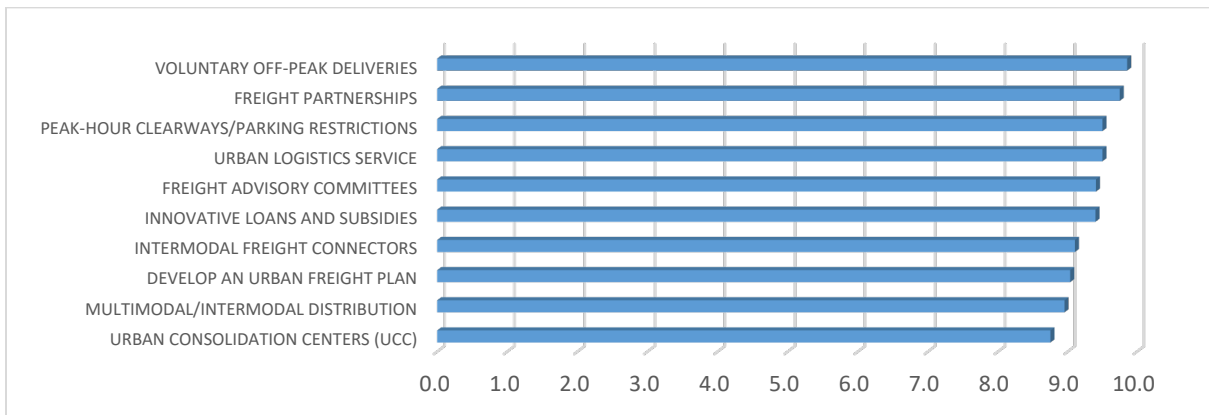


Figure B-4. Top Strategies Accelerated by “Direct Stakeholder Involvement”

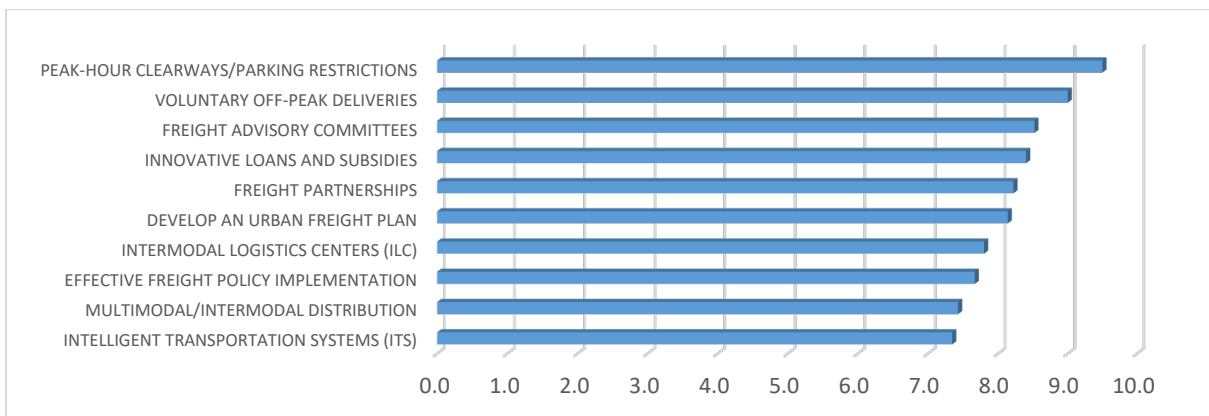


Figure B-5. Top Strategies Accelerated by “Stakeholder Education”

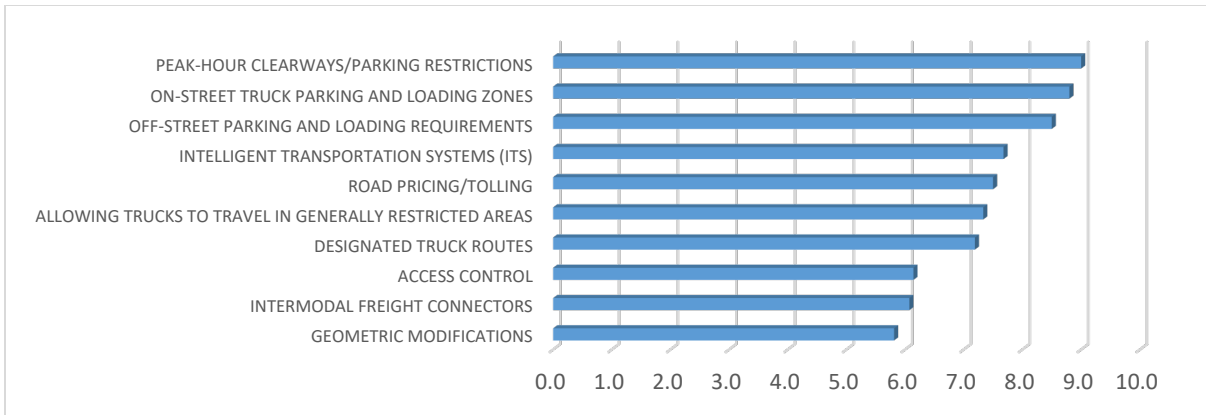


Figure B-6. Top Strategies Accelerated by “Effective Signage”

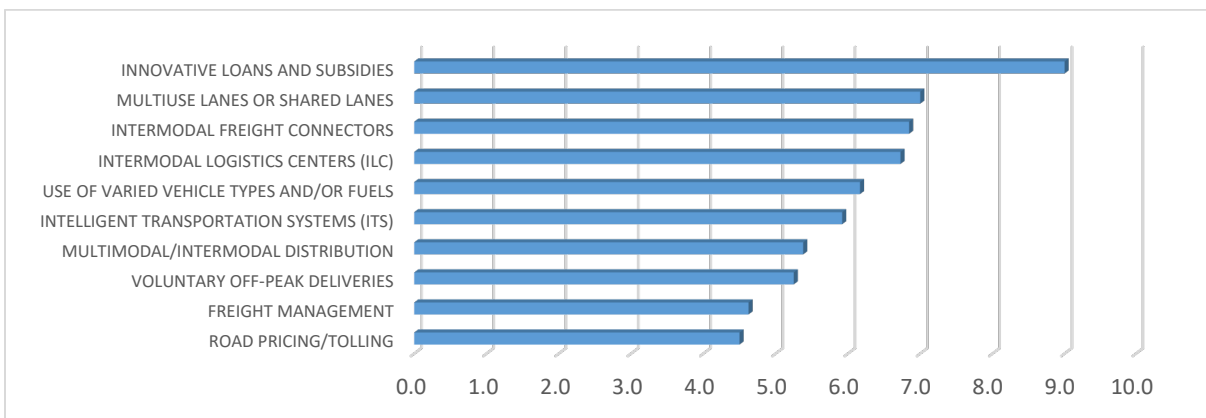


Figure B-7. Top Strategies Accelerated by “Cost Sharing”

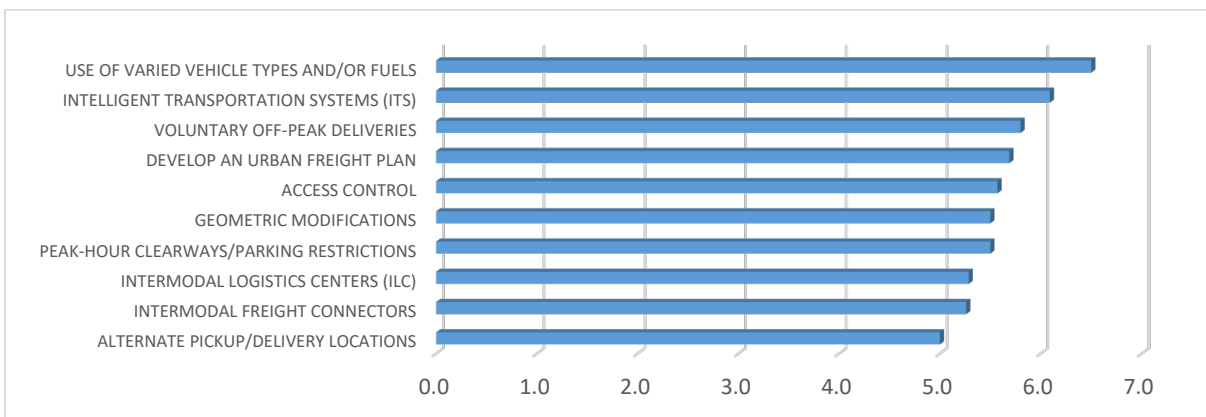


Figure B-8. Top Strategies Accelerated by “Internal Training on How to Implement the Strategy”

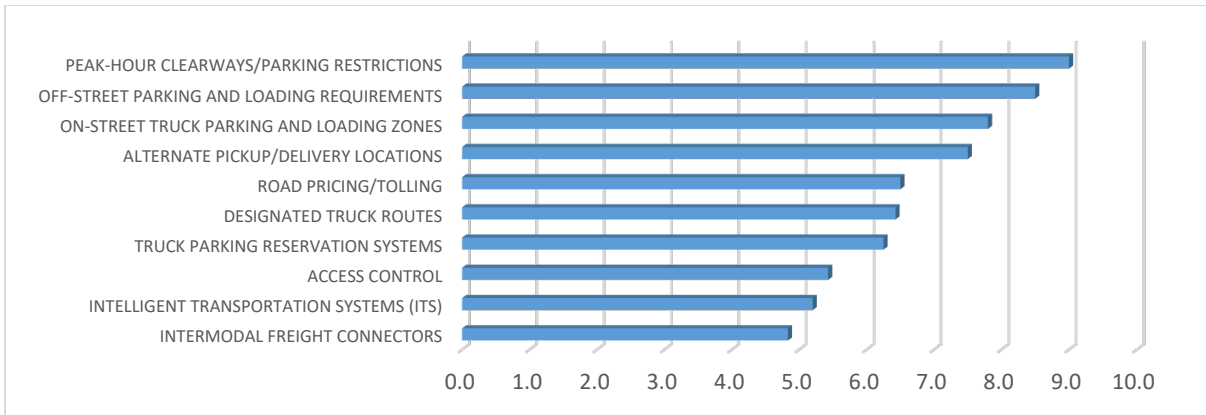


Figure B-9. Top Strategies Accelerated by “Enforcement”

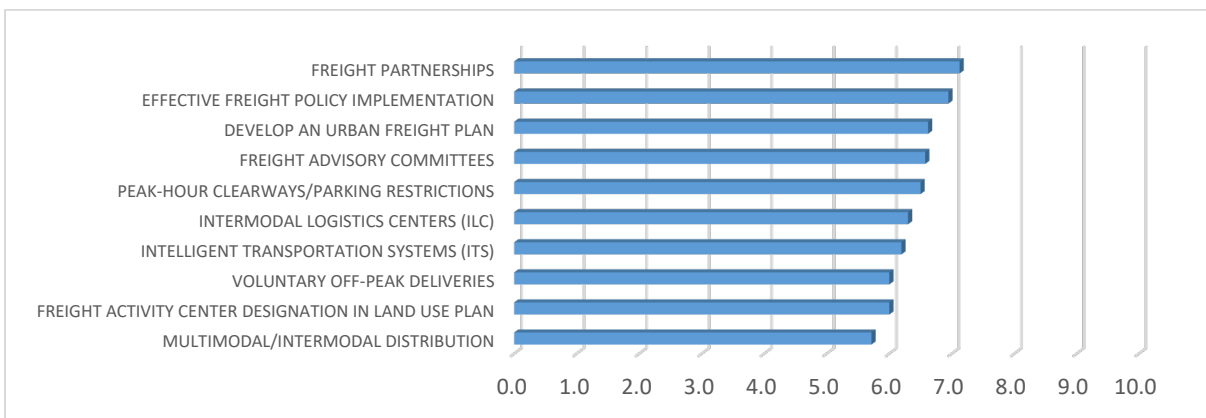


Figure B-10. Top Strategies Accelerated by “Staffing and Organizational Capacity”

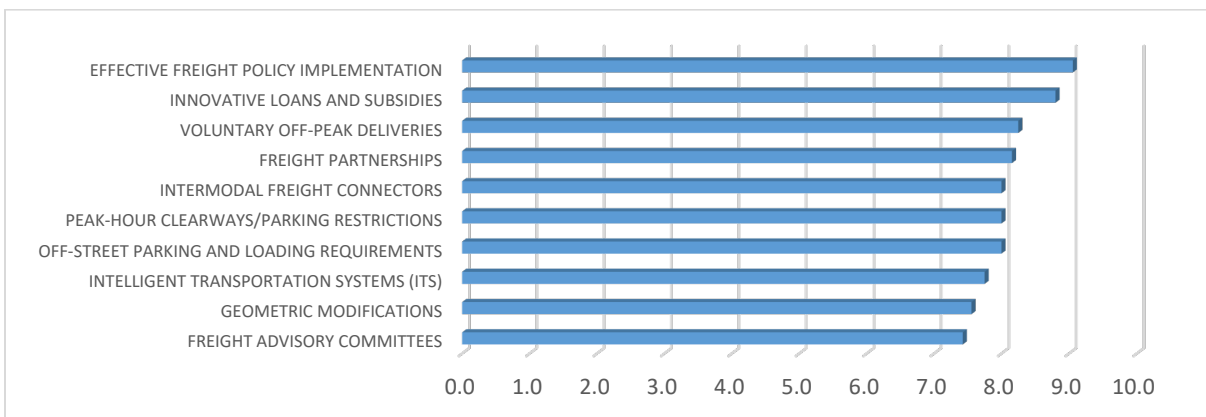


Figure B-11. Top Strategies Accelerated by “Institutional Commitment to Implementation of the Strategy”

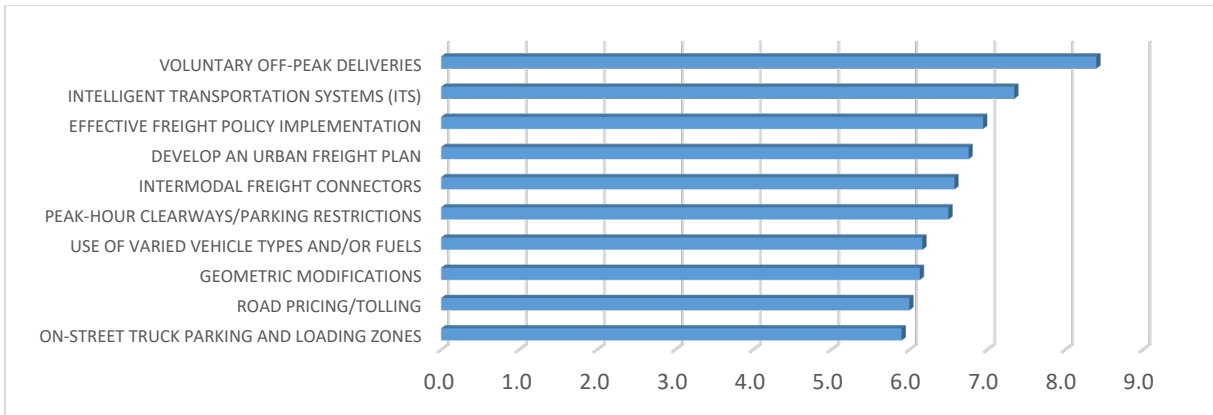


Figure B-12. Top Strategies Accelerated by “Monitoring and Evaluation of the Strategy”

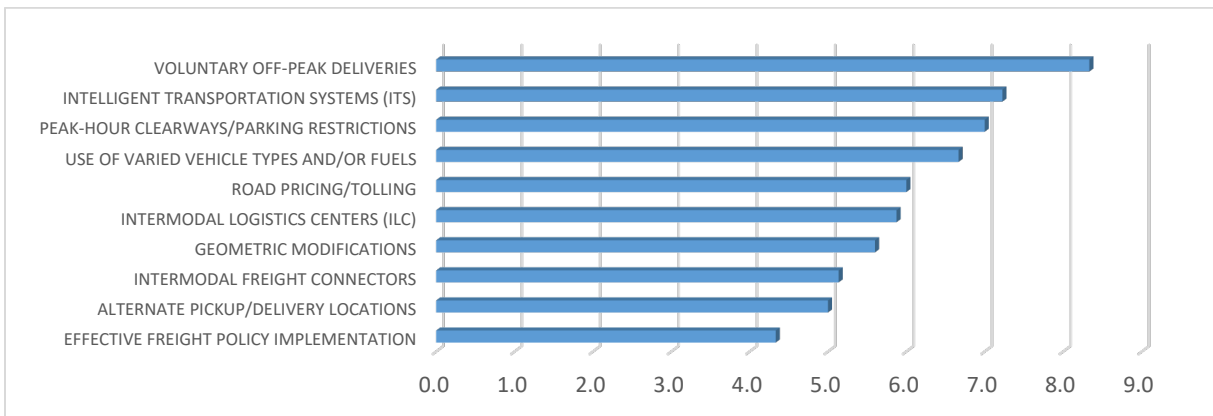


Figure B-13. Top Strategies Accelerated by “Pilot Application or Special Studies”

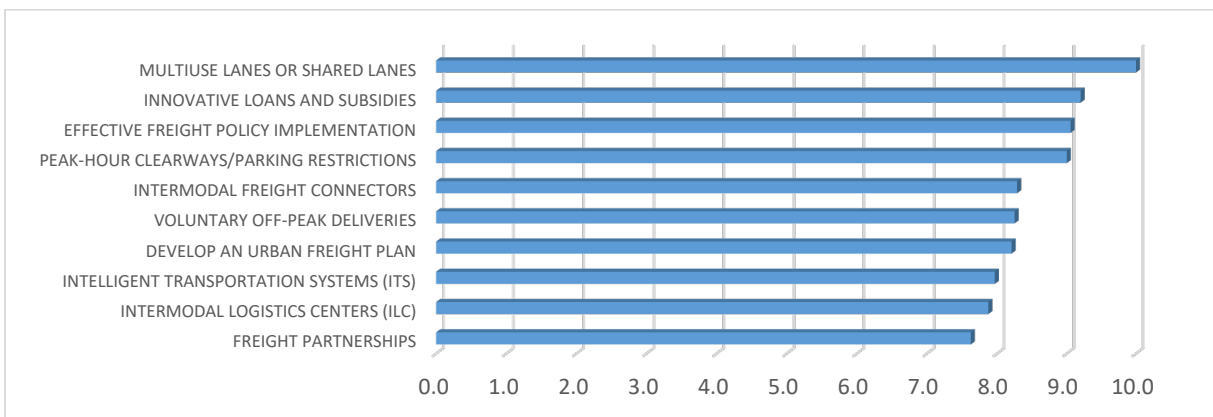


Figure B-14. Top Strategies Accelerated by “Political Support and/or Project Champion”

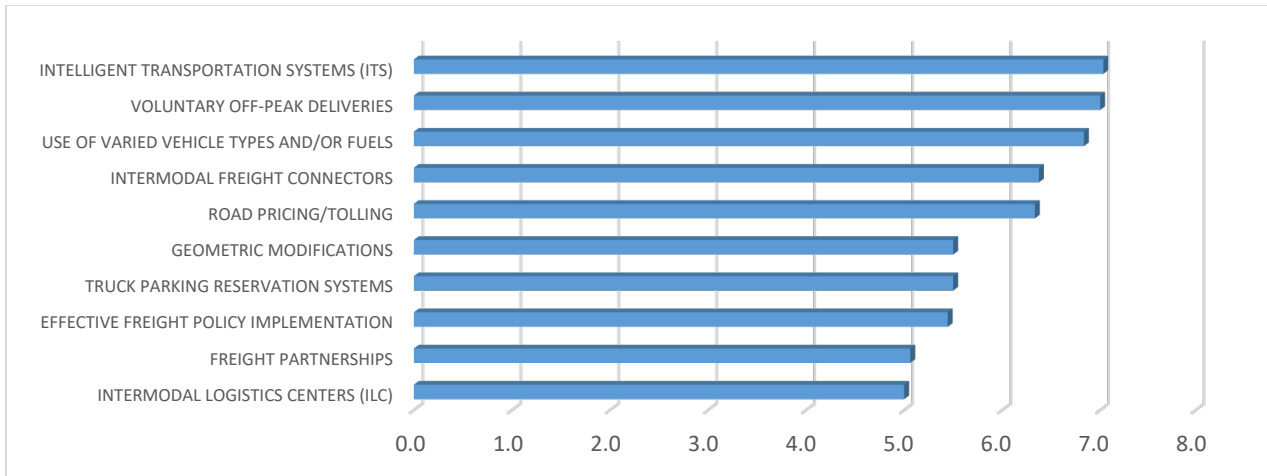


Figure B-15. Top Strategies Accelerated by “Current Research Demonstrating Effectiveness and/or Implementation Steps”

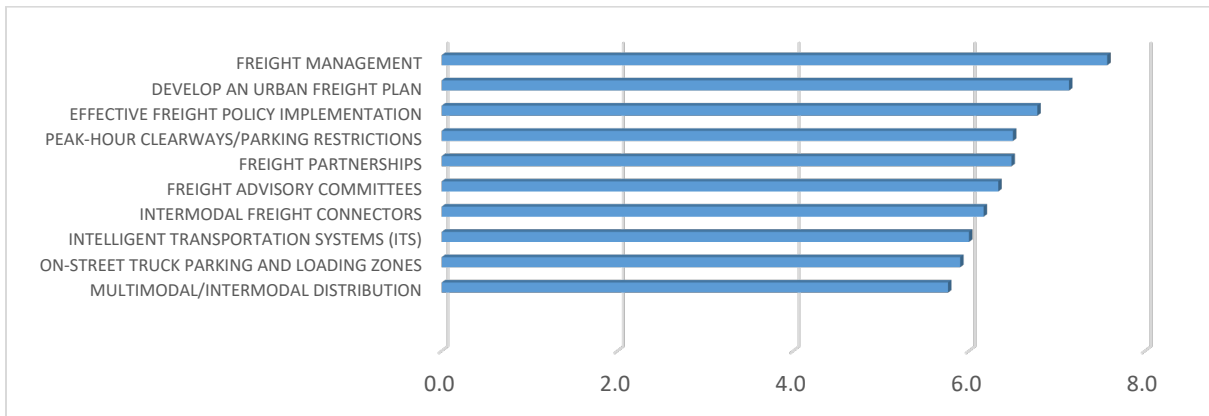


Figure B-16. Top Strategies Hindered by “Staffing/Organizational Capacity”

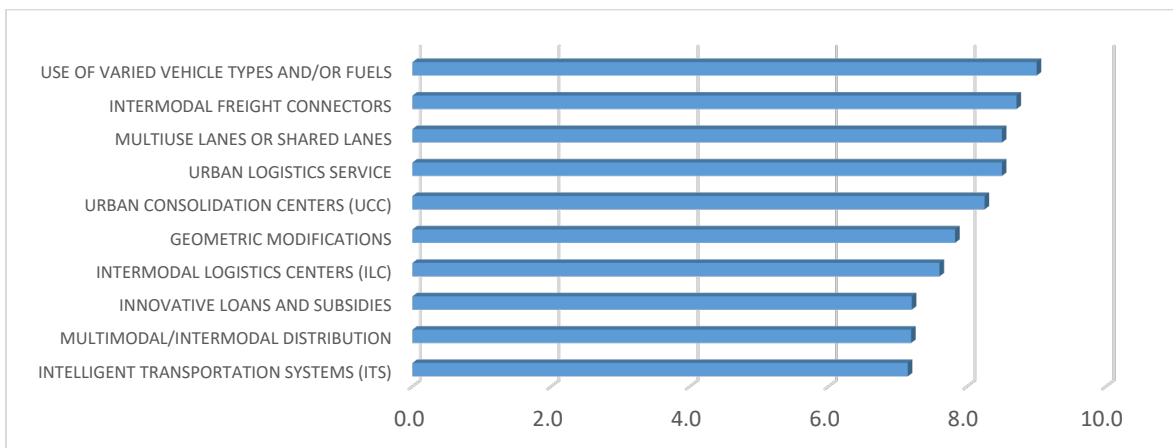


Figure B-17. Top Strategies Hindered by “Cost and Lack of Funding”

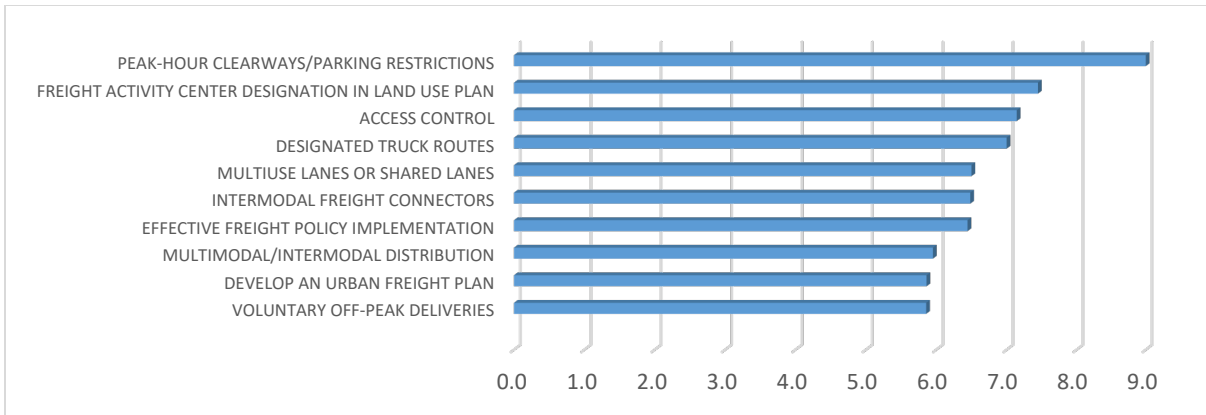


Figure B-18. Top Strategies Hindered by “Lack of Policy Maker Support”

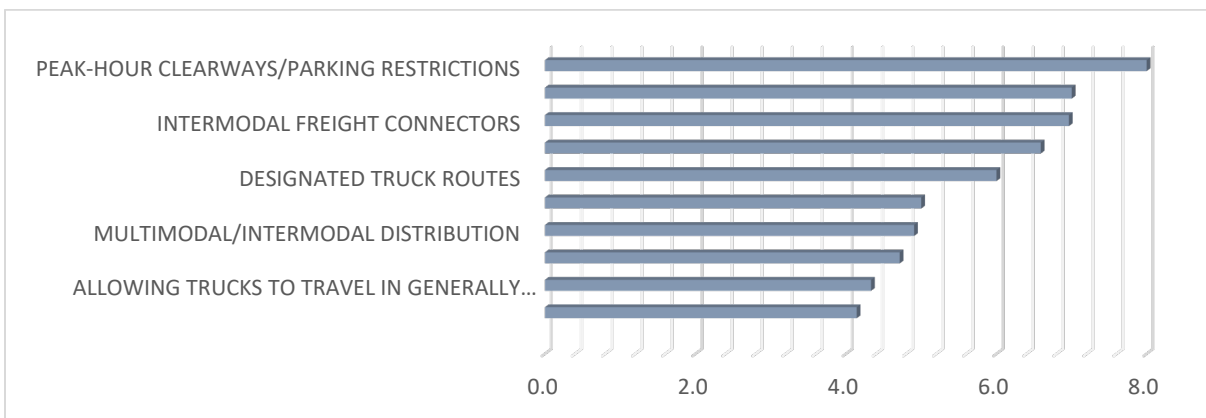


Figure B-19. Top Strategies Hindered by “Right-of-Way (ROW) Constraints”

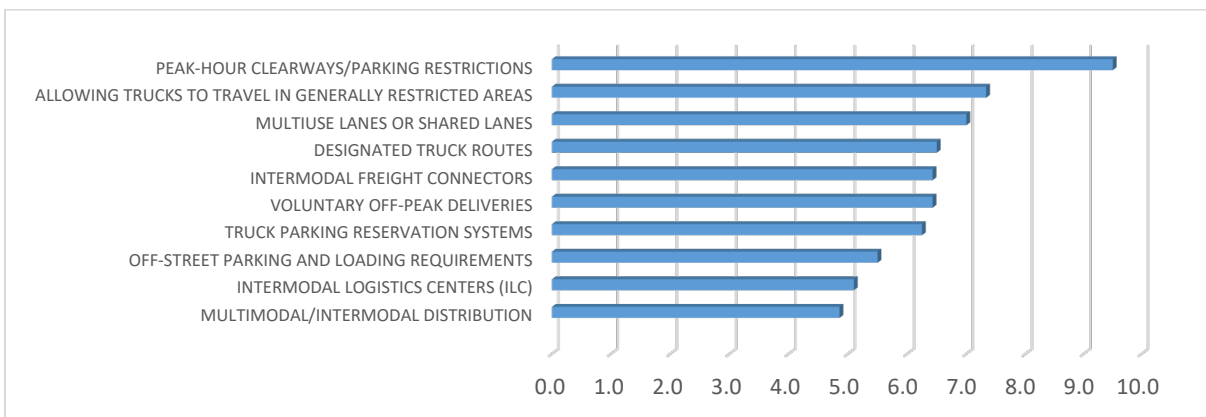


Figure B-20. Top Strategies Hindered by “Neighborhood Opposition”

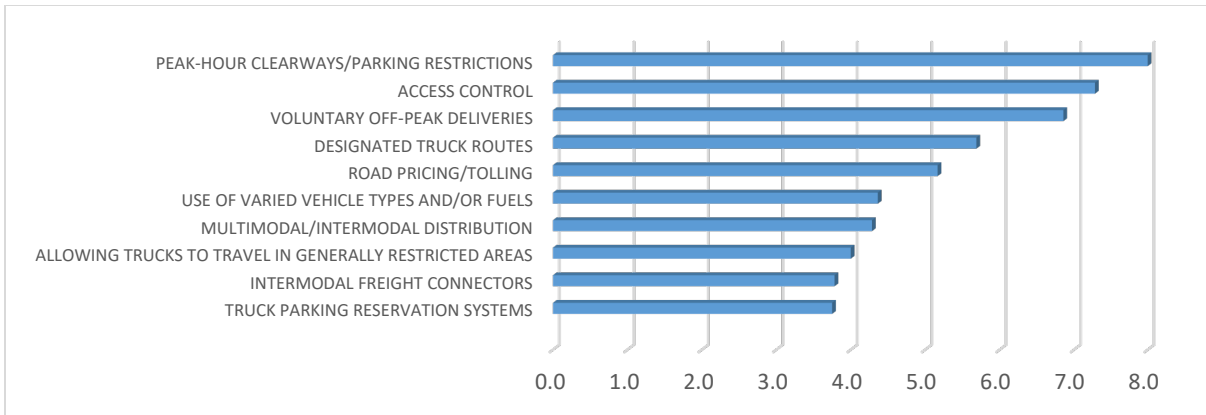


Figure B-21. Top Strategies Hindered by “Business/Receiver Opposition”

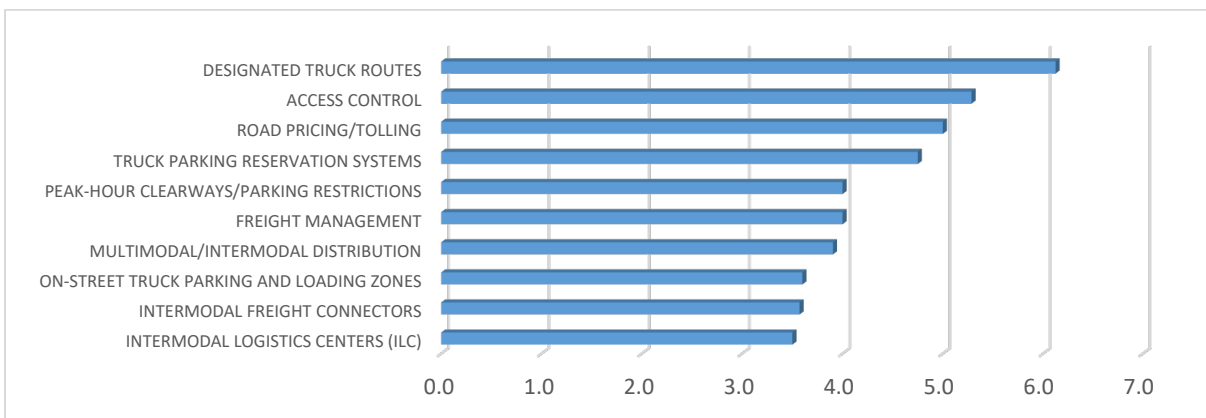


Figure B-22. Top Strategies Hindered by “Opposition by Truckers/Delivery”

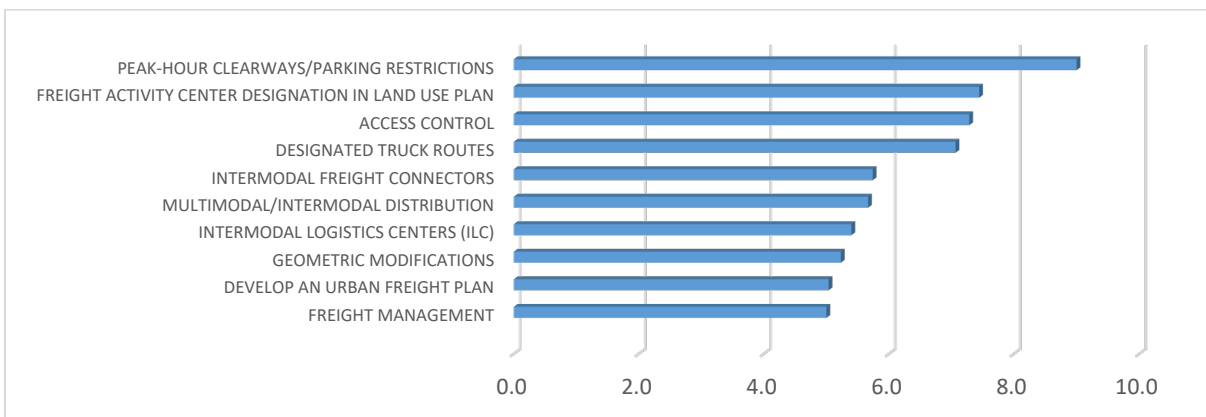


Figure B-23. Top Strategies Hindered by “Lack of Interagency Coordination”

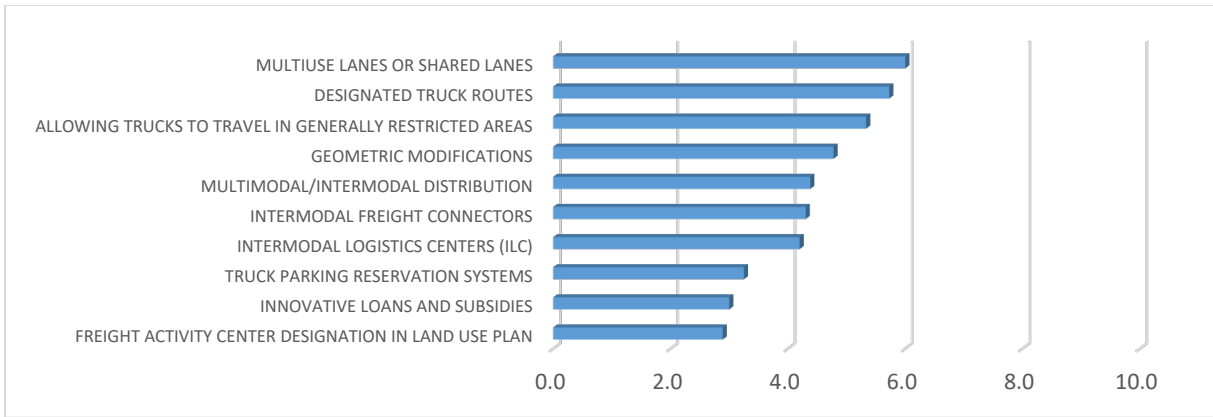


Figure B-24. Top Strategies Hindered by “Environmental Concerns”

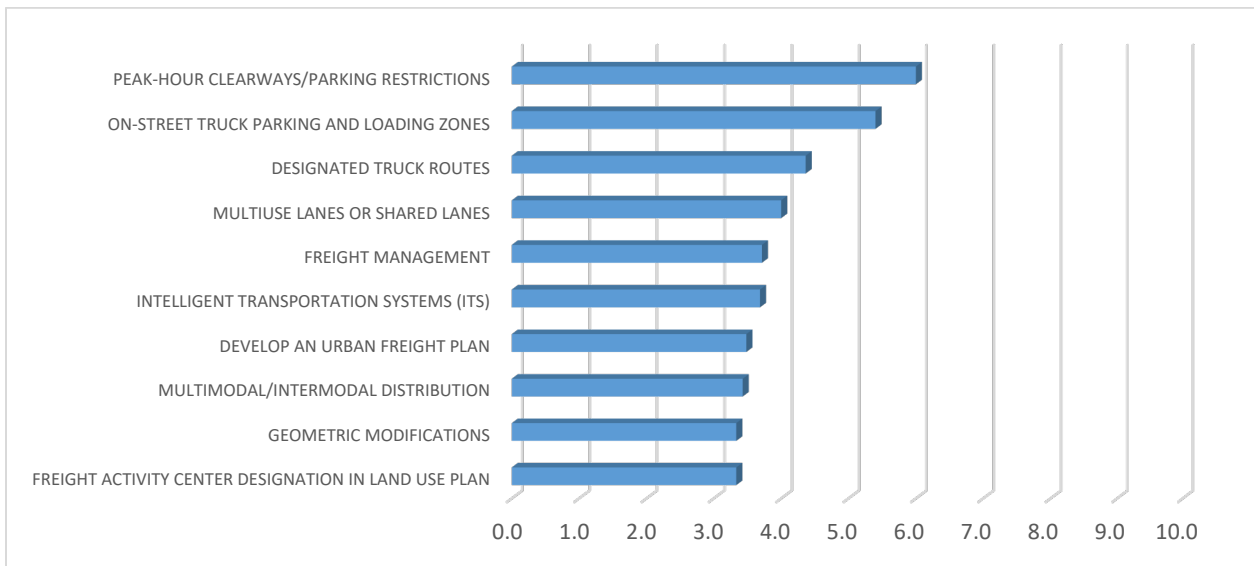


Figure B-25. Top Strategies Hindered by “Lack of Data/Processing Ability”

Final (Post-Workshop) Average Weight Values Based upon the Aggregated Pre-Workshop and Post-Workshop Feedback

Table B-9. Results for Key Facilitators for Implementation of Freight Strategies

Strategies	Costs	Energy	Environmental	Funding	Geographical
Geometric Modifications	5.4	0.0	4.2	0.8	0.0
Designated Truck Routes/Lanes	2.9	0.0	0.0	0.0	0.0
On-street Parking and Loading Zones	2.7	0.0	0.0	0.0	0.0
Multiuse Lanes or Shared Lanes	7.0	0.0	0.0	0.0	0.0
Off-street Parking and Loading Requirements	3.0	0.0	0.0	0.0	0.0
Parking Restrictions	3.5	2.5	2.5	0.0	0.0
Intelligent Transportation Systems (ITS)	5.9	4.5	0.0	0.0	0.0
Autonomous Vehicles/ Connected Vehicles	4.5	4.5	4.0	2.5	0.0
Vehicle Parking Reservation Systems	3.5	0.0	0.0	0.0	0.0
Freight Demand Management	4.9	4.0	3.1	3.1	3.8
Multimodal/Intermodal Urban Distribution	5.4	3.5	3.5	0.0	2.5
Intermodal Logistics Center (ILC)	6.7	0.0	0.0	0.0	3.5
Urban Consolidation Center (UCC)	3.8	0.0	0.0	0.0	3.0
Urban Freight Villages	8.0	1.0	0.0	8.0	7.0
Urban Logistics Services	4.5	1.5	2.0	4.5	1.5
Alternate Pickup/Delivery Locations	2.4	2.0	2.0	0.0	2.5
Certification Programs	4.5	3.0	5.5	8.0	0.0
Low-Noise Delivery Programs/Regulations	0.0	0.0	8.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	0.0	0.0	0.0	0.0
Urban Distribution Using Multiple Types of Vehicles	6.2	2.5	3.0	4.5	1.5
Vehicle Access Control	1.7	0.0	1.8	1.3	0.0
Truck Side Guards	0.0	0.0	0.0	0.0	0.0
Preferential Parking	3.0	0.0	0.0	0.0	0.0
Preferential Zoning	2.5	1.5	7.5	2.8	9.4
Taxation and Fees	6.7	3.0	3.2	1.3	0.0
Integrating Freight into the Land Use Planning Process	3.1	0.5	0.0	2.0	2.5
Developing an Urban Freight Plan	3.7	0.0	2.3	0.0	0.0
Freight Advisory Committee (FAC)	2.4	0.0	0.0	5.0	0.0
Contractual Freight Partnerships	3.9	6.7	3.3	6.3	2.8
Integrating Freight and Economic Policies	3.2	0.0	0.0	0.0	0.0

Table B-9. Results for Key Facilitators for Implementation of Freight Strategies (Continued)

Strategies	Implementation Time	Infrastructure	Labor	Operational	Organizational/ Institutional
Geometric Modifications	4.3	5.9	5.3	6.3	6.9
Designated Truck Routes/Lanes	0.0	7.1	3.9	5.0	6.4
On-street Parking and Loading Zones	0.0	8.7	4.6	5.9	6.4
Multiuse Lanes or Shared Lanes	0.0	5.4	4.0	4.0	5.3
Off-street Parking and Loading Requirements	0.0	8.4	4.5	4.0	4.9
Parking Restrictions	2.0	8.9	5.4	6.5	8.4
Intelligent Transportation Systems (ITS)	4.5	7.6	6.0	7.3	7.1
Autonomous Vehicles/ Connected Vehicles	0.0	2.0	4.0	3.9	3.8
Vehicle Parking Reservation Systems	4.5	5.7	2.5	4.0	5.3
Freight Demand Management	2.0	3.8	5.3	6.8	6.8
Multimodal/Intermodal Urban Distribution	0.0	4.2	4.2	5.3	7.3
Intermodal Logistics Center (ILC)	0.0	4.6	5.3	5.7	7.1
Urban Consolidation Center (UCC)	0.0	2.0	1.2	5.7	4.5
Urban Freight Villages	5.0	8.0	4.0	5.0	10.0
Urban Logistics Services	2.0	4.0	3.5	4.0	5.4
Alternate Pickup/Delivery Locations	2.5	1.5	4.2	5.4	8.0
Certification Programs	8.3	0.0	0.0	0.0	7.5
Low-Noise Delivery Programs/Regulations	0.0	8.0	0.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	8.0	10.0	0.0	0.0
Urban Distribution Using Multiple Types of Vehicles	0.0	3.2	6.4	6.1	6.5
Vehicle Access Control	0.0	6.7	3.6	3.1	5.2
Truck Side Guards	1.0	0.0	0.0	3.5	9.0
Preferential Parking	0.0	2.5	0.0	2.3	5.0
Preferential Zoning	1.0	1.5	0.0	3.4	4.0
Taxation and Fees	2.7	4.4	2.9	5.8	6.7
Integrating Freight into the Land Use Planning Process	2.8	2.6	4.6	4.1	6.9
Developing an Urban Freight Plan	0.0	2.4	5.6	6.7	7.7
Freight Advisory Committee (FAC)	0.0	1.4	4.2	5.3	8.0
Contractual Freight Partnerships	0.0	1.7	3.8	5.4	8.2
Integrating Freight and Economic Policies	0.0	1.1	3.7	6.9	8.0

Table B-9. Results for Key Facilitators for Implementation of Freight Strategies (Continued)

Strategies	Political	Regulatory	Safety	Societal	Technological	Traffic
Geometric Modifications	7.7	4.6	2.6	6.0	5.6	1.5
Designated Truck Routes/Lanes	7.5	6.4	2.4	6.9	3.6	0.0
On-street Parking and Loading Zones	5.6	7.8	0.0	5.3	3.7	0.0
Multiuse Lanes or Shared Lanes	9.9	4.5	0.0	5.5	1.8	0.0
Off-street Parking and Loading Requirements	3.0	8.5	0.0	3.0	3.0	0.0
Parking Restrictions	9.0	9.0	1.4	9.5	5.5	4.0
Intelligent Transportation Systems (ITS)	7.9	5.2	2.3	6.2	7.1	0.0
Autonomous Vehicles/ Connected Vehicles	2.5	4.5	2.3	2.5	0.0	4.0
Vehicle Parking Reservation Systems	5.2	6.3	0.0	4.8	4.4	0.0
Freight Demand Management	6.2	4.4	1.5	5.7	5.9	2.8
Multimodal/Intermodal Urban Distribution	7.2	3.6	0.0	6.3	4.1	0.0
Intermodal Logistics Center (ILC)	7.8	4.7	0.0	7.8	5.4	0.0
Urban Consolidation Center (UCC)	4.5	2.1	0.0	2.1	4.2	3.0
Urban Freight Villages	2.5	9.0	1.0	0.0	8.0	7.0
Urban Logistics Services	4.5	3.5	0.0	0.0	3.8	2.0
Alternate Pickup/Delivery Locations	7.0	2.0	0.0	6.8	3.3	3.5
Certification Programs	5.5	8.5	6.0	6.5	5.5	2.0
Low-Noise Delivery Programs/Regulations	0.0	0.0	0.0	0.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	0.0	4.0	0.0	8.0	0.0
Urban Distribution Using Multiple Types of Vehicles	6.8	4.4	2.3	4.8	6.8	0.0
Vehicle Access Control	4.8	3.6	0.0	7.6	2.7	0.0
Truck Side Guards	3.0	5.0	4.0	2.0	0.0	0.0
Preferential Parking	1.8	0.5	0.8	1.5	1.0	1.0
Preferential Zoning	1.3	4.5	0.0	4.0	0.0	8.5
Taxation and Fees	8.3	4.7	0.6	6.2	5.1	0.8
Integrating Freight into the Land Use Planning Process	7.5	3.1	0.0	5.9	2.9	1.5
Developing an Urban Freight Plan	8.2	3.1	0.0	7.8	4.4	2.3
Freight Advisory Committee (FAC)	7.0	2.0	0.0	6.8	3.2	0.0
Contractual Freight Partnerships	7.6	1.6	3.1	5.5	4.6	3.0
Integrating Freight and Economic Policies	9.0	1.5	0.0	6.5	4.9	0.0

Table B-10. Results for Key Barriers for the Implementation of Freight Strategies

Strategies	Costs	Energy	Environmental	Funding	Geographical
Geometric Modifications	8.2	0.0	4.5	8.3	0.9
Designated Truck Routes/Lanes	6.1	0.0	5.7	6.1	0.0
On-street Parking and Loading Zones	5.0	0.0	1.4	5.0	0.0
Multiuse Lanes or Shared Lanes	8.4	0.0	6.0	8.5	0.0
Off-street Parking and Loading Requirements	2.0	0.0	2.0	2.0	4.5
Parking Restrictions	5.0	0.0	2.0	5.0	0.0
Intelligent Transportation Systems (ITS)	7.1	0.0	1.5	7.1	0.0
Autonomous Vehicles/ Connected Vehicles	2.0	0.0	0.0	1.0	0.0
Vehicle Parking Reservation Systems	3.5	0.0	3.3	3.5	4.5
Freight Demand Management	5.9	0.0	1.8	5.9	2.4
Multimodal/Intermodal Urban Distribution	7.1	0.0	4.4	7.2	2.5
Intermodal Logistics Center (ILC)	7.5	0.0	4.2	7.6	3.5
Urban Consolidation Center (UCC)	8.2	0.0	0.0	8.3	0.0
Urban Freight Villages	5.0	1.0	3.0	8.0	7.0
Urban Logistics Services	8.4	1.5	0.5	8.5	2.5
Alternate Pickup/Delivery Locations	3.3	2.0	1.1	3.3	0.0
Certification Programs	8.5	0.0	0.0	8.5	0.0
Low-Noise Delivery Programs/Regulations	0.0	0.0	0.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	0.0	0.0	0.0	10.0
Urban Distribution Using Multiple Types of Vehicles	9.0	1.0	1.6	9.0	0.0
Vehicle Access Control	2.2	0.0	3.6	2.2	0.0
Truck Side Guards	7.0	0.0	0.0	0.0	0.0
Preferential Parking	1.0	0.0	1.0	0.0	3.0
Preferential Zoning	0.0	0.0	3.0	4.0	4.5
Taxation and Fees	6.4	0.5	2.3	6.4	1.5
Integrating Freight into the Land Use Planning Process	2.6	0.0	2.9	2.7	7.0
Developing an Urban Freight Plan	5.9	0.0	1.9	5.9	0.0
Freight Advisory Committee (FAC)	3.3	0.0	1.1	3.3	0.0
Contractual Freight Partnerships	4.9	6.5	1.8	4.9	1.6
Integrating Freight and Economic Policies	3.2	0.0	0.0	0.0	0.0

Table B-10. Results for Key Barriers for the Implementation of Freight Strategies (Continued)

Strategies	Implementation Time	Infrastructure	Labor	Operational	Organizational/ Institutional
Geometric Modifications	1.2	4.7	0.5	0.0	5.6
Designated Truck Routes/Lanes	0.0	0.0	0.0	2.0	6.4
On-street Parking and Loading Zones	0.0	0.0	0.0	0.0	4.5
Multiuse Lanes or Shared Lanes	0.0	0.0	0.0	0.0	4.8
Off-street Parking and Loading Requirements	0.0	0.0	0.0	0.0	2.1
Parking Restrictions	0.0	0.0	0.0	0.0	8.2
Intelligent Transportation Systems (ITS)	0.0	0.0	0.0	0.0	4.8
Autonomous Vehicles/ Connected Vehicles	0.0	1.5	2.5	2.1	3.8
Vehicle Parking Reservation Systems	0.0	0.0	1.0	0.5	2.5
Freight Demand Management	0.3	4.2	2.8	1.0	5.0
Multimodal/Intermodal Urban Distribution	0.0	3.5	0.0	0.0	5.8
Intermodal Logistics Center (ILC)	0.0	6.0	2.5	0.0	4.7
Urban Consolidation Center (UCC)	0.0	0.0	0.0	0.0	2.1
Urban Freight Villages	0.0	8.0	7.0	7.0	10.0
Urban Logistics Services	2.5	1.0	0.0	0.0	2.7
Alternate Pickup/Delivery Locations	0.0	2.0	0.0	2.0	5.6
Certification Programs	7.0	0.0	0.0	4.0	8.0
Low-Noise Delivery Programs/Regulations	0.0	0.0	0.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	0.0	0.0	0.0	0.0
Urban Distribution Using Multiple Types of Vehicles	0.0	8.0	3.0	3.1	4.6
Vehicle Access Control	0.0	0.0	0.0	0.0	4.0
Truck Side Guards	0.0	0.0	0.0	3.3	2.0
Preferential Parking	2.5	3.0	0.0	2.3	7.5
Preferential Zoning	0.0	0.0	0.0	0.0	8.5
Taxation and Fees	1.2	1.2	0.0	0.3	4.5
Integrating Freight into the Land Use Planning Process	0.0	4.5	0.0	2.0	6.8
Developing an Urban Freight Plan	0.0	0.0	0.0	0.0	6.0
Freight Advisory Committee (FAC)	0.0	0.0	0.0	0.0	5.6
Contractual Freight Partnerships	0.0	3.4	4.5	0.0	5.3
Integrating Freight and Economic Policies	0.0	1.1	3.7	6.9	8.0

Table B-10. Results for Key Barriers for the Implementation of Freight Strategies (Continued)

Strategies	Political	Regulatory	Safety	Societal	Technological	Traffic
Geometric Modifications	3.2	6.7	0.0	5.3	3.3	5.4
Designated Truck Routes/Lanes	5.9	5.9	0.0	6.5	4.4	6.0
On-street Parking and Loading Zones	3.4	5.0	0.0	4.0	5.4	8.2
Multiuse Lanes or Shared Lanes	2.5	6.9	0.0	7.0	4.0	7.0
Off-street Parking and Loading Requirements	2.5	2.5	0.0	5.5	2.5	0.0
Parking Restrictions	5.9	7.9	0.0	9.5	6.0	8.0
Intelligent Transportation Systems (ITS)	2.1	2.8	0.0	1.8	3.7	3.9
Autonomous Vehicles/ Connected Vehicles	2.3	3.7	2.0	6.0	4.3	3.0
Vehicle Parking Reservation Systems	4.2	3.7	0.0	6.3	3.0	7.5
Freight Demand Management	4.0	3.0	0.2	4.5	3.3	2.5
Multimodal/Intermodal Urban Distribution	4.1	4.9	0.0	4.9	3.4	6.0
Intermodal Logistics Center (ILC)	3.4	3.6	0.0	5.1	2.5	5.1
Urban Consolidation Center (UCC)	1.2	0.0	0.0	0.1	0.0	0.0
Urban Freight Villages	10.0	9.0	1.0	3.0	0.0	6.0
Urban Logistics Services	2.7	0.5	0.0	0.5	2.5	1.5
Alternate Pickup/Delivery Locations	1.4	0.7	0.0	0.7	2.9	6.5
Certification Programs	5.0	8.5	0.0	0.0	5.0	4.5
Low-Noise Delivery Programs/Regulations	0.0	0.0	0.0	0.0	0.0	0.0
Freight Rail Routing through Urban Center	0.0	0.0	0.0	0.0	0.0	0.0
Urban Distribution Using Multiple Types of Vehicles	3.8	1.8	0.8	3.0	1.9	3.3
Vehicle Access Control	4.3	4.5	0.0	5.9	1.1	6.0
Truck Side Guards	0.0	0.0	0.0	0.0	0.0	0.0
Preferential Parking	3.5	5.0	0.3	7.5	4.0	3.5
Preferential Zoning	3.3	4.5	0.5	4.5	0.0	3.0
Taxation and Fees	3.2	3.5	0.0	2.7	1.5	3.7
Integrating Freight into the Land Use Planning Process	2.4	1.6	0.0	4.1	3.3	2.3
Developing an Urban Freight Plan	2.3	2.6	0.0	2.7	3.5	4.5
Freight Advisory Committee (FAC)	1.4	0.7	0.0	0.7	2.9	1.6
Contractual Freight Partnerships	1.4	1.3	2.3	1.7	2.6	0.0
Integrating Freight and Economic Policies	9.0	1.5	0.0	6.5	4.9	0.0

Appendix C: Strategy Resource Matrix Dictionary

Table C-1 shows the strategy resource matrix dictionary.

Table C-1. Strategy Resource Matrix Dictionary

Column	Column Name	Column Explanation
A	#	Reference number
B	Citation	Reference to a published or unpublished source
C	Synopsis	Brief summary of the reference
D	Keywords	Topics of significance from the literature sources
E	Problem	Brief description of the urban area freight-related issue that needs to be addressed by the users
F	P_IDX	Problem Index
G	Year	Year of publication
H	Information source	Type of the information source
I	IS_IDX	Information Source Index
J	Strategy group	Classification of strategies by general emphasis area
K	SG_IDX	Strategy Group Index
L	Strategy	Solution, approach, or method for solving the specified problem in Column E
M	A_IDX	Strategy Index
N	Requirements of Use	Necessary—basic—conditions for the specific urban freight strategy in Column L to be implemented
O	Requirements of Use_IDX	Requirements of Use Index
P	Implementation	Whether the strategy (ies) has (ve) been implemented or not
Q	Implementation_IDX	Implementation Index
R	Spatial Scope	Geographies at which the strategy (ies) is (are) focused
S	Spatial Scope_IDX	Spatial Scope Index
T	Transportation Mode	Freight transportation mode at which the strategy (ies) is (are) focused
U	Transportation Mode_IDX	Transportation Mode Index
V	Facilitator Factor Group	Classification of facilitators by general area
W	Facilitator Factor Group_IDX	Facilitator Factor Group Index
X	Facilitators to Implementation	Description of critical factors that favor implementation
Y	Facilitators to Implementation (Terms)	Index terms of critical factors that favor implementation
Z	Facilitators to Implementation_IDX	Facilitators to Implementation Index

Table C-1. Strategy Resource Matrix Dictionary (Continued)

Column	Column Name	Column Explanation
AA	Barrier Factor Group	Classification of barriers by general area
AB	Barrier Factor Group_IDX	Barrier Factor Group Index
AC	Barriers to Implementation	Description of critical factors that prevent implementation
AD	Barriers to Implementation (Terms)	Index terms of critical factors that prevent implementation
AE	Barriers to Implementation_IDX	Barriers to Implementation Index
AF	Performance Measures	Freight performance measures associated with urban freight strategies—retrieved from the literature and references in Column B
AG	Effectiveness	Strategy effectiveness in the post-implementation phases
AH	Effectiveness Source	Source of where the effectiveness score originated: the reference material or the reviewer of the reference material
AI	Recommendations	Description of elements, processes, or relationships that accelerate the adoption and/or implementation of effective and/or innovative urban freight strategies
AJ	Recommendations_IDX	Recommendations Index
AK	Adaptability	Description of how the strategy (ies) can be adapted, tailored, or transferred to the United States and its urban areas
AL	Adaptability_IDX	Adaptability Index
AM	Cost	Estimated cost level needed to implement the strategy (ies)
AN	Cost Source	Source of where the cost score originated: the reference material or the reviewer of the reference material
AO	Time	Estimated length of time needed to implement the strategy (ies)
AP	Time Source	Source of where the time score originated: the reference material or the reviewer of the reference material
AQ	Benefited Sectors (Percentage)-Public	The benefit share (in percentage) of the public sector from the strategy operation or implementation
AR	Benefited Sectors (Percentage)-Private	The benefit share (in percentage) of the private sector from the strategy operation or implementation
AS	Public/Private Implementation Tasks	Description of tasks that are likely to be performed by each sector in the implementation and operation of the strategy
AT	ImpTasks_IDX	Public/Private Implementation Tasks Index
AU	Which private sector group is involved?	List of private-sector stakeholder groups likely to be involved in the implementation
AV	Private Sector_IDX	Private Sector Index