

# Non-Radioactive Hazardous Materials Route Designation Study

## Process Summary



# Federal & State Regulations



- ▶ Federal regulations authorize states and Indian tribes to designate non-radioactive hazardous materials (NRHM) routes on public roads and highways under their jurisdiction<sup>1</sup>
- ▶ State regulations **require** municipalities with a population of more than 850,000 to designate routes for commercial motor vehicles carrying NRHM<sup>2</sup>
  - Requires that municipalities use Federal Highway Administration's (FHWA) "Guidelines for Applying Criteria to Designate Routes for Transporting Hazardous Materials" in developing a NRHM routing designation

1. Code of Federal Regulations, Title 49, Subtitle B, Chapter III, Subchapter B, Part 379, Subpart C Routing of Non-Radioactive Hazardous Materials

2. Texas Transportation Code, Title 7, Subtitle F, Chapter 644, Subchapter E, Section §644.202 Designation of Route

# Purpose of Study



- ▶ **Designate** roadways for through-routing of NRHM in Austin without unduly burdening commerce
- ▶ **Minimize** potential for vehicular incidents involving NRHM
- ▶ **Minimize** consequences to all Austin residents should an NRHM incident occur
- ▶ **Maximize** public safety in relation to NRHM transport

# 1 Define Objectives and Responsibilities



- ▶ Formed Steering Committee and Stakeholder Working Group (SWG) to guide process
- ▶ Steering Committee:
  - City of Austin (CoA) Transportation Department (Rob Spillar, Jim Dale, Marissa Monroy, Annick Beaudet, Tien-Tien Chan), Capital Area Metropolitan Planning Organization (CAMPO - Ashby Johnson), CoA Communications & Public Information Office (Douglas Matthews), CoA Office of Sustainability (Lucia Athens, Lewis Leff), CoA Public Works Department (Richard Mendoza, David Magana), CoA Law Department (Angela Rodriguez)



# 1 Define Objectives and Responsibilities



► Stakeholder Working Group – to provide technical expertise on infrastructure and operations:

- CoA departments; TxDOT; CAMPO; Central Texas Regional Mobility Authority (CTRMA); local Chambers of Commerce; emergency response agencies; environmental protection agencies; schools/universities; county representatives; healthcare providers; and shipping/trucking industry representatives
- CoA boards and commissions including the Chairs of the Urban Transportation Commission and Public Safety Commission

# 1 Public Involvement and Outreach



- ▶ The following public events and outreach efforts were conducted to gather input on the NRHM route identification process, priorities of the community, and preliminary outcomes:
  - 2 public open houses
    - Locations: Ruiz Branch Public Library & Terrazas Branch Public Library
    - Advertised through official CoA press release, social media, project webpage, and secondary outreach to the SWG and City Council
    - Advertised and covered by local news
  - 2 presentations to local emergency planning committees
  - Presentations to the CoA Public Safety Committee, the CoA Mobility Committee, and the CAMPO Technical Advisory Committee
  - Outreach to CoA City Council
    - One-on-one meetings with council members and/or aides
    - Provided project information 30 days in advance of open house for distribution to constituents
  - Coordinated outreach with Austin Strategic Mobility Plan (ASMP) public events

## 2 Define Network

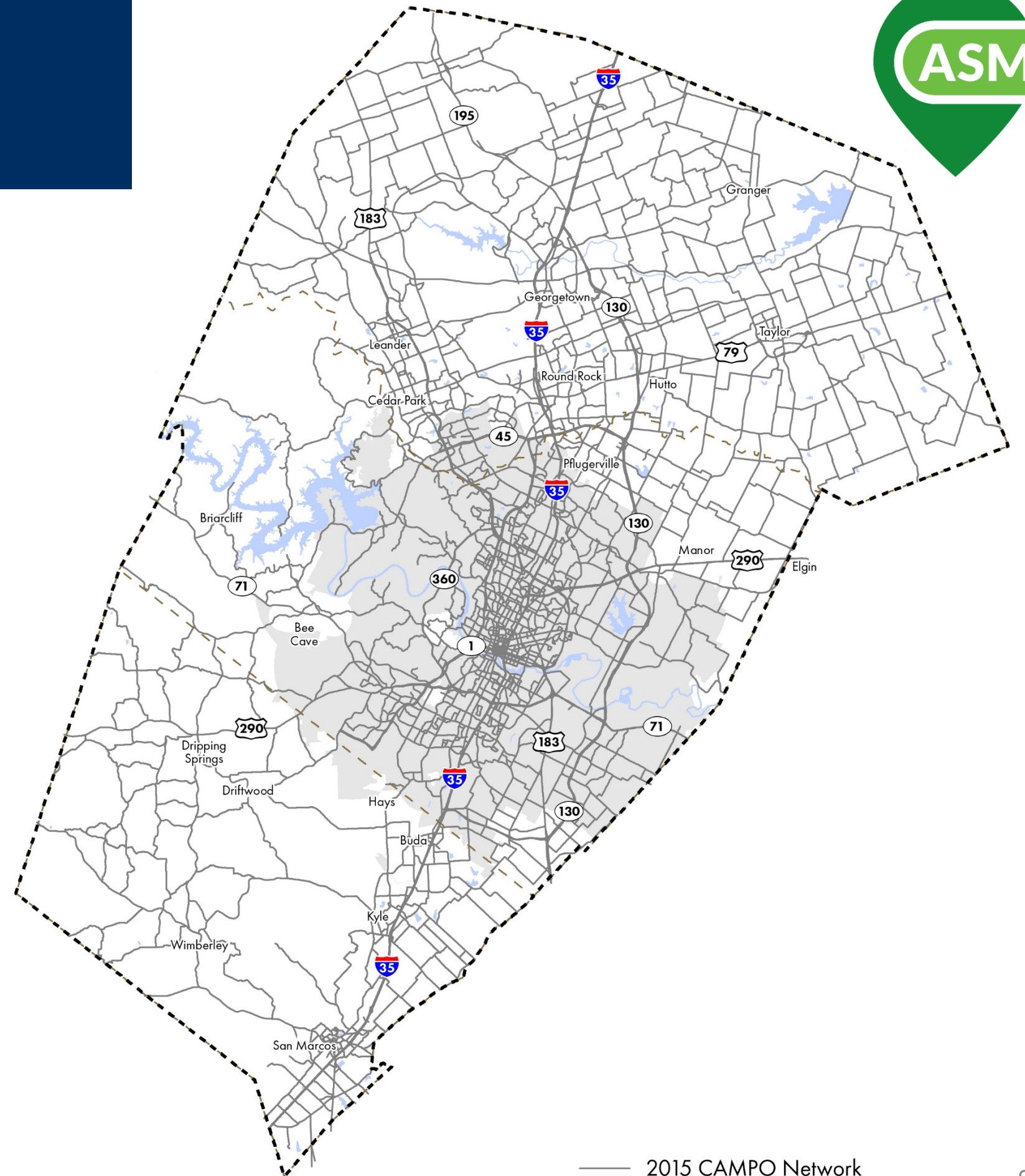


- ▶ Established that the routing designation would focus on through-routes
- ▶ Started with CAMPO model network updated for 2015; all roadways considered as candidates for NRHM routing designation
- ▶ Removed roads with physical or legal constraints
- ▶ Removed roads identified by SWG as unsuitable for NRHM through-traffic
- ▶ Limited network to all roadways with a functional classification of principal arterial and above that were not disqualified in previous steps

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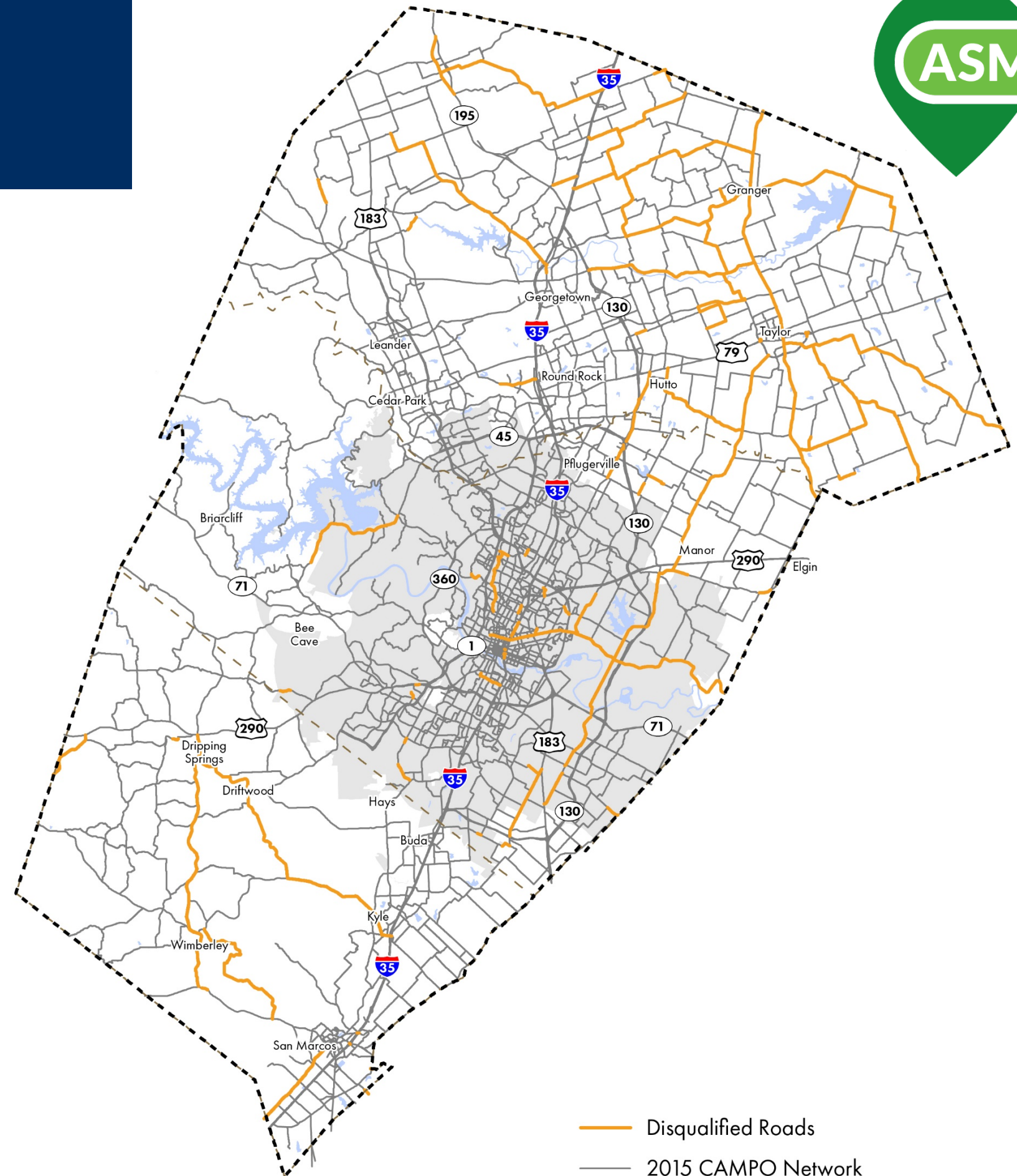
— 2015 CAMPO Network



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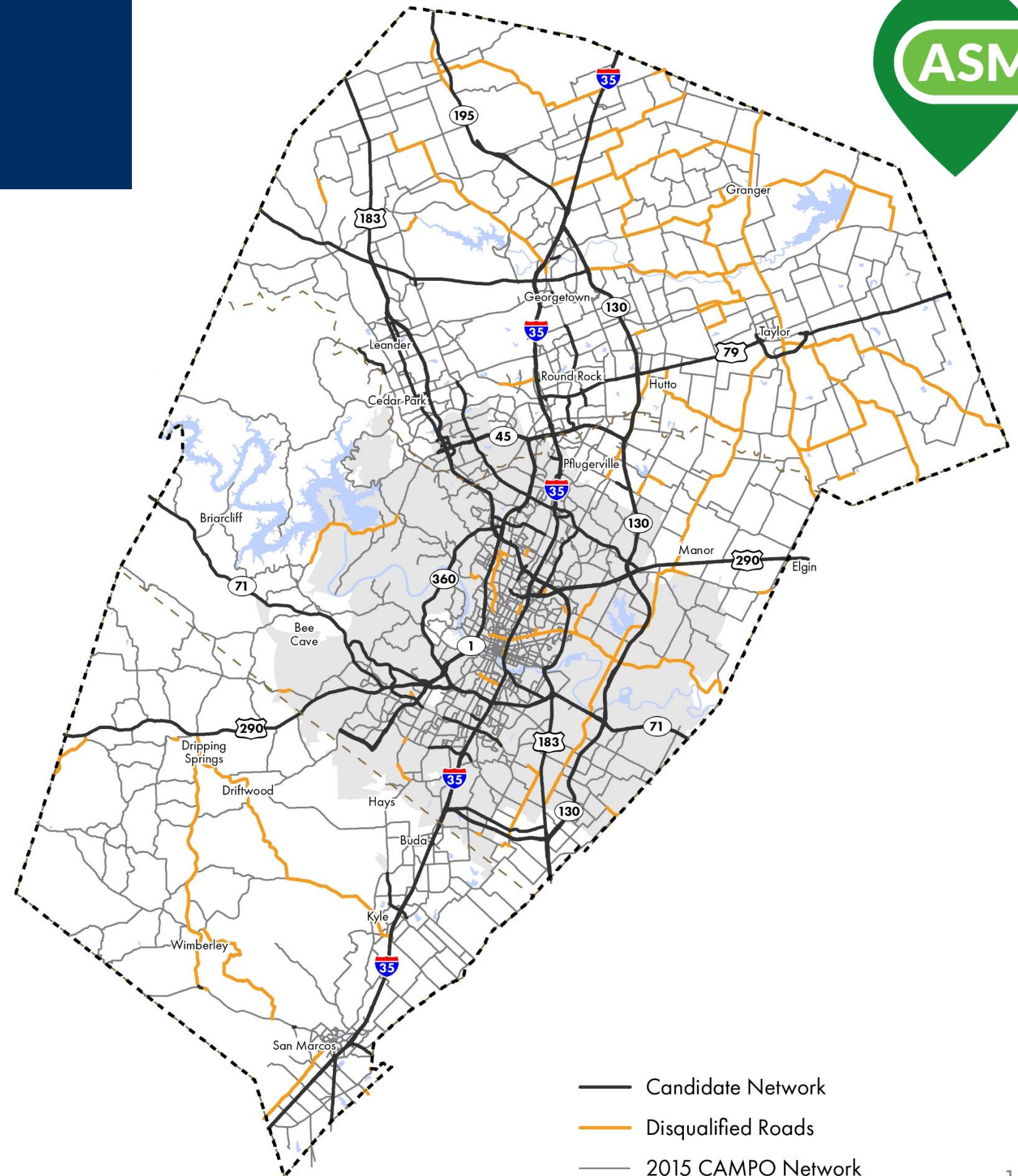
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- Candidate Network
- Disqualified Roads
- 2015 CAMPO Network



# 3 Risk Analysis and Routing Options



- ▶ Current likely through-routing shows likely existing conditions based on hazmat freight routing data and minimized travel time
- ▶ Used as a baseline comparison for through-routing options developed in risk analysis

# 3 Risk Analysis and Routing Options



- ▶ Calculated an “incident risk factor” for all candidate network links
  - Incident risk factor = impacted population X crash probability
    - Impacted Population = population within 0.5 mile of roadway
- ▶ Compared the risk of through-routes between major study area entry and exit points
- ▶ All possible major through-routing options were considered, including Mopac/Loop 1, US 183, Loop 360, and IH 35



# 4 Stakeholder and Public Feedback

- ▶ Presented through-routing options to SWG
- ▶ Presented through-routing options to the public
- ▶ Feedback was collected and vetted with the Steering Committee



# 5 Routing Options



▶ The following factors were used to compare routing options:

- Incident risk factor
- Travel time
- Population of environmental justice (EJ) areas within 0.5 miles of route
  - EJ areas have at least 50% of families earning less than 80% of the county median family income, and/or at least 25% of the population earning below the poverty level, and/or less than 50% of the population identifying themselves as White, non-Hispanic
- Roadway miles in Edwards Aquifer
- Number of sensitive environmental features within 0.5 miles of route

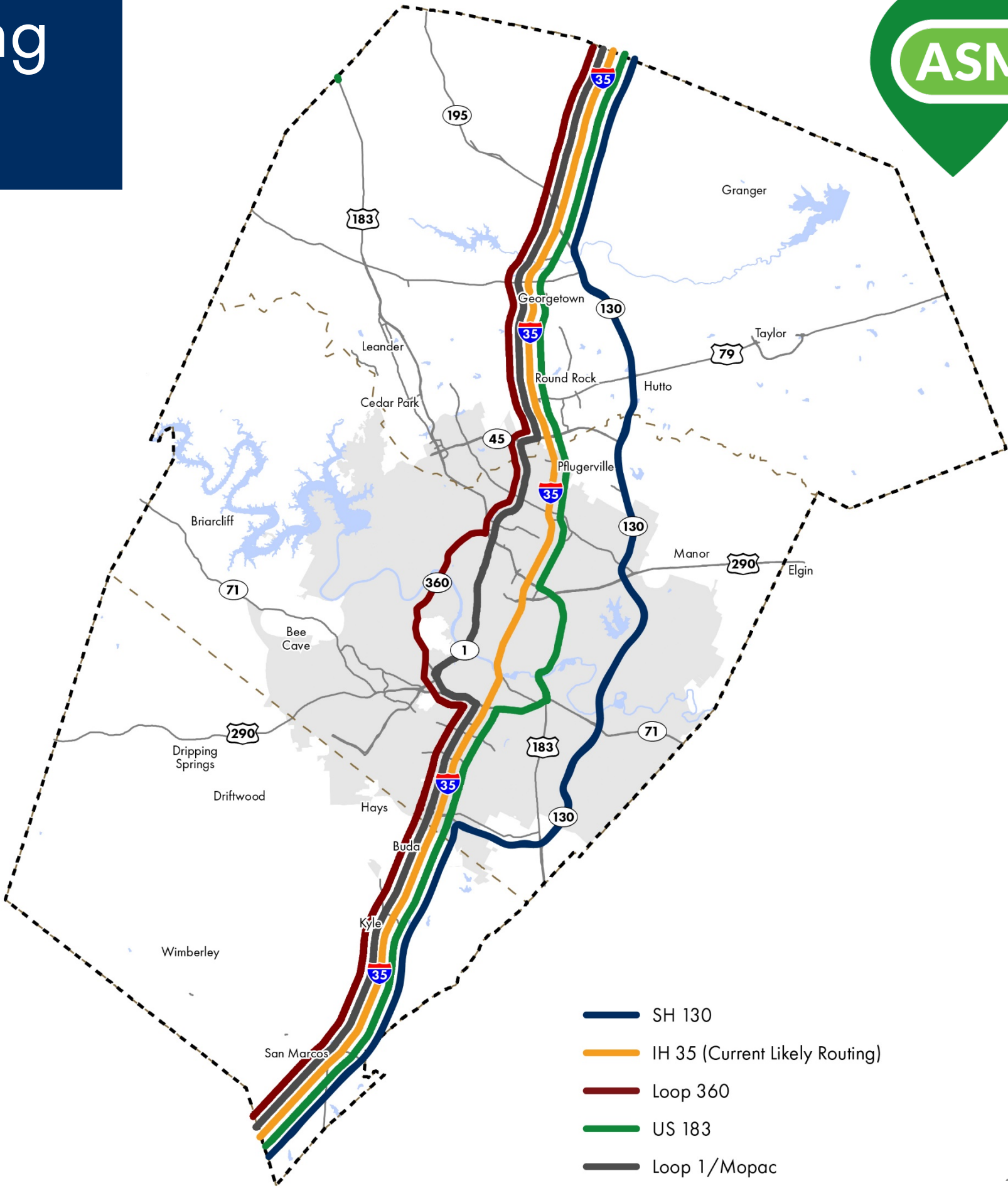
# 6 North-South Through-Routing Example



- ▶ North-south is the predominant NRHM through-routing movement for the study area

Major Through-Route Risk Analysis Comparison (IH 35 N - S) for Study Area

	Incident Risk Factor	Travel Time	Pop. of EJ Area within 0.5 mile	Road Miles in Edwards Aquifer	Sensitive Environmental Features within 0.5 mile
IH 35 (Current Likely)	198	145	396,900	34	10
SH 130	34	148	193,300	12	7
Loop 1 / Mopac	121	154	300,900	55	22
US 183	209	158	419,600	34	10
Loop 360	170	163	282,300	54	18





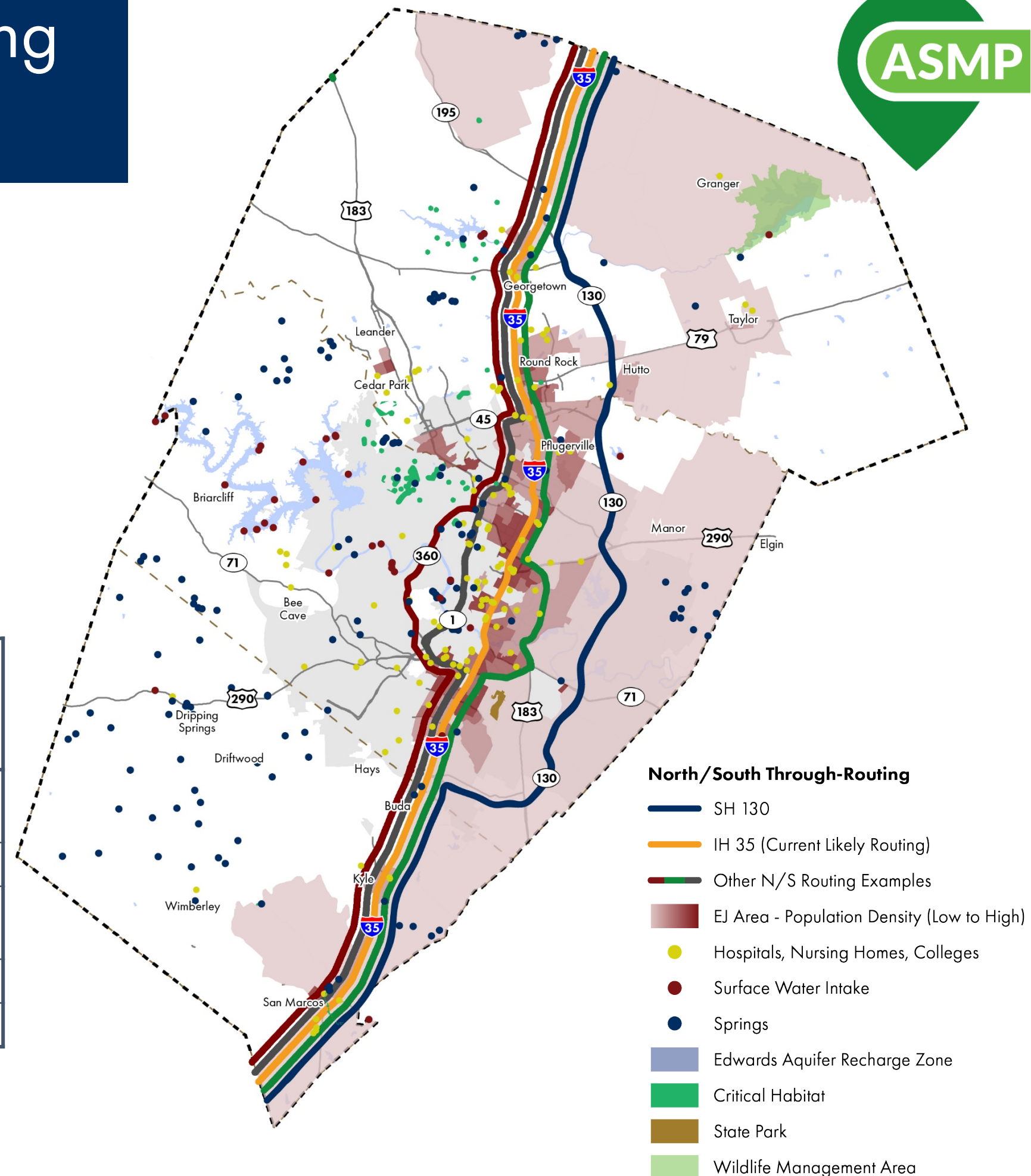
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# Non-Radioactive Hazardous Materials Route Designation Study - Updated EJ Analysis for Austin ETJ

 Areas with Highest Concentrations of Environmental Justice Populations

Note: For this study, environmental justice populations are defined as minority populations, families with income below 80% of county median family income, and those earning an income less than the poverty level. This map shows the top 25% of block groups in the study area based on population density for these three population categories. The map is intended to show where environmental justice populations are most concentrated.



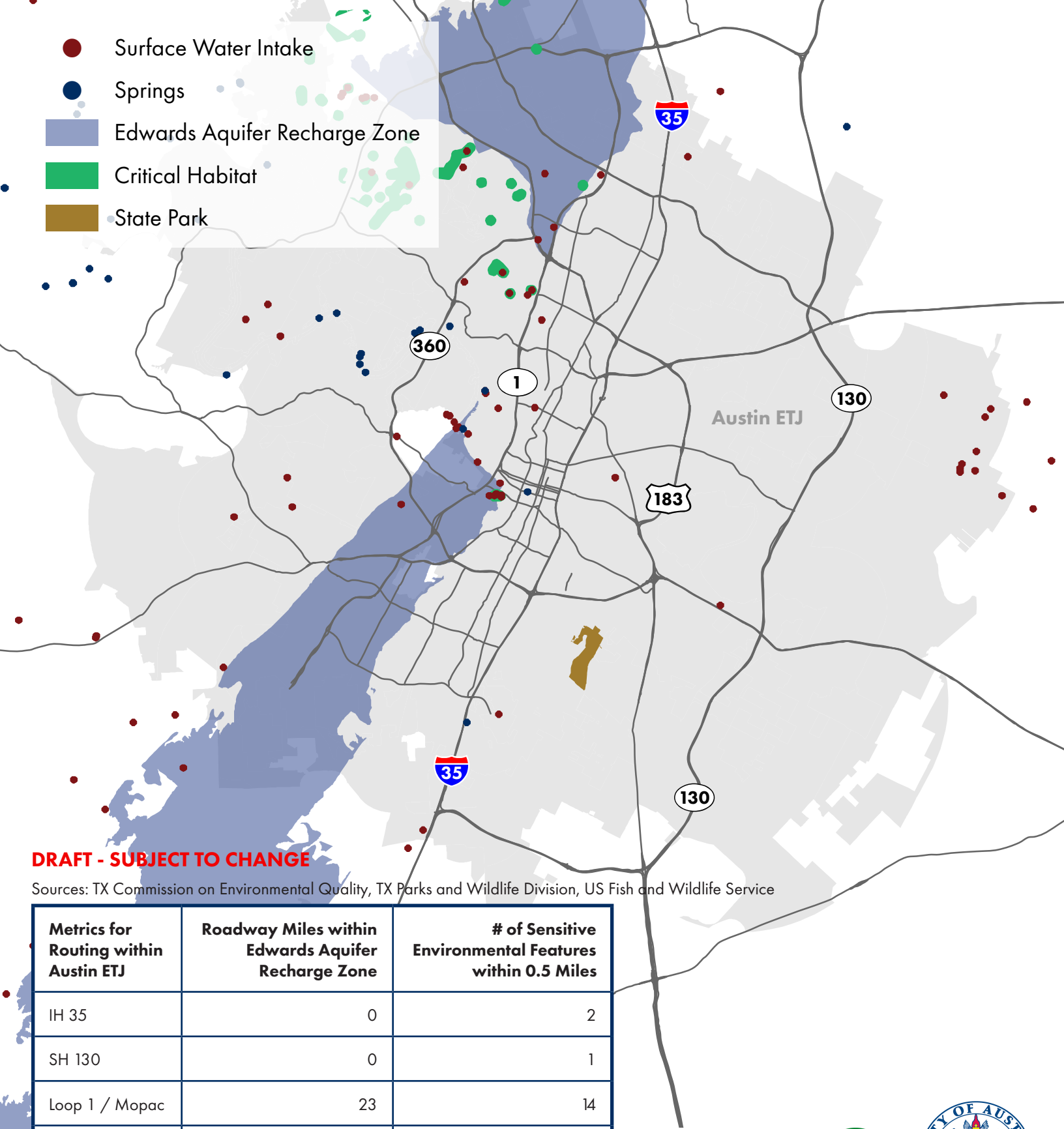
**DRAFT - SUBJECT TO CHANGE**

Sources: 2012-2016 US Census American Community Survey; 2016 City of Austin Land Database

Metrics for Routing within Austin ETJ	Total Pop. within 0.5 Miles	Minority Pop. within 0.5 Miles	Pop. with Income below Poverty Level	% of Land within 0.5 Miles that is Undeveloped	# of Residential Units within 0.5 Miles
IH 35	246,904	150,960	45,153	14%	54,915
SH 130	60,837	43,824	8,571	68%	979
Loop 1 / Mopac	233,042	165,190	51,181	19%	44,567
US 183	206,175	99,272	24,274	16%	41,803
Loop 360	227,172	102,590	30,813	13%	54,184



# Non-Radioactive Hazardous Materials Route Designation Study - Environmental Features Analysis for Austin ETJ



**DRAFT - SUBJECT TO CHANGE**

Sources: TX Commission on Environmental Quality, TX Parks and Wildlife Division, US Fish and Wildlife Service

Metrics for Routing within Austin ETJ	Roadway Miles within Edwards Aquifer Recharge Zone	# of Sensitive Environmental Features within 0.5 Miles
IH 35	0	2
SH 130	0	1
Loop 1 / Mopac	23	14
US 183	0	2
Loop 360	21	10