California Statewide Travel Demand Model (CSTDM)

Tier 2 Training

Unit 10

Model Outputs

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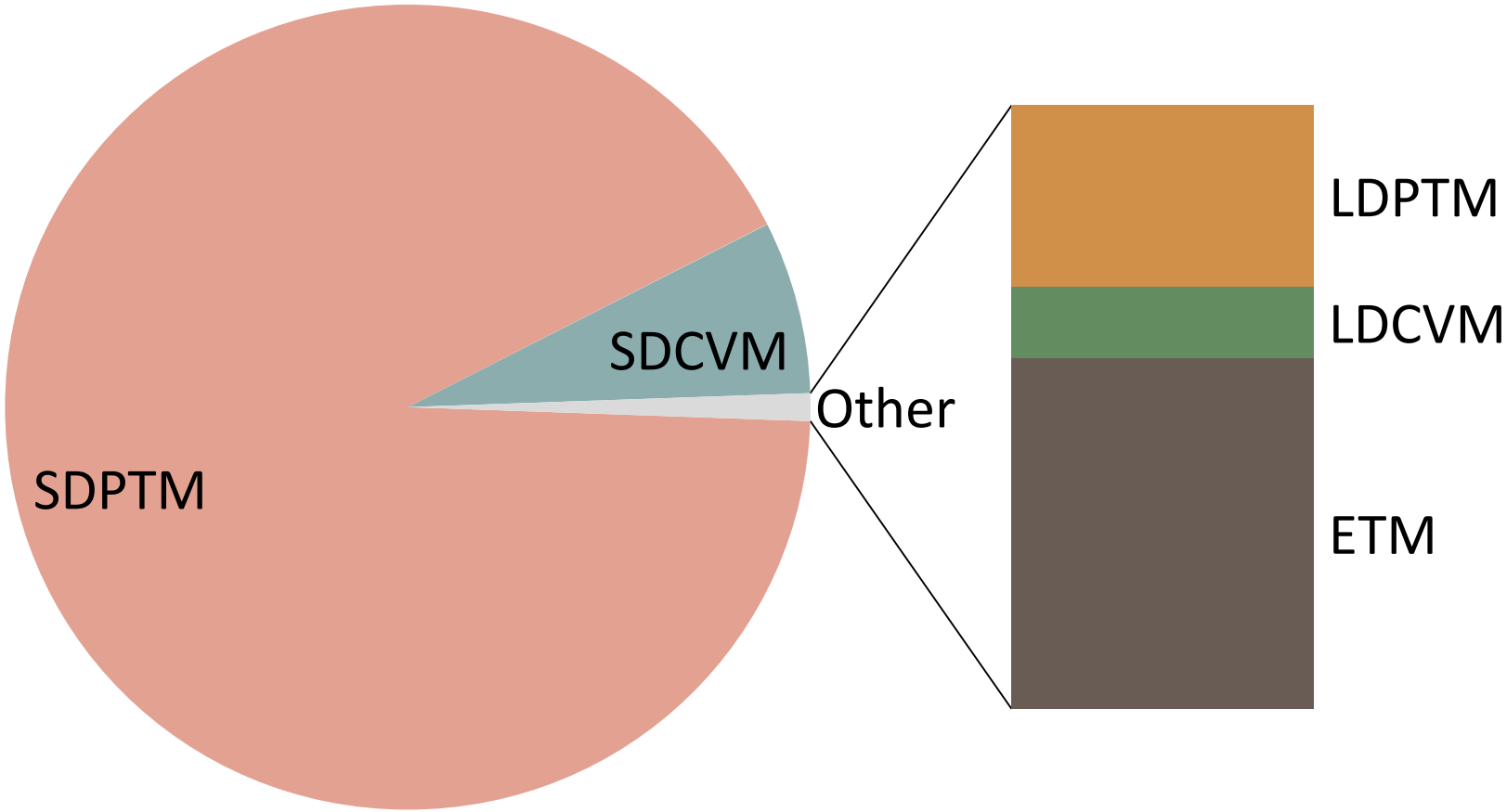
Output Types

- Trip Lists by submodel
- Cube vehicle trip matrices
- Cube loaded network output
- Cube time and cost skim matrices

125 million trips

(2008 typical fall weekday)



Trip Lists

- Standard output format produced by all 5 CSTDM demand models
- Files in .csv format for maximum compatibility
- One row = one trip
- Contains all trips
- Automatically read into Cube and converted to vehicle trips

Trip Lists

Unique Identifier

Home Zone

Actor type

Orig. purp.

Dest. purp.

Origin

Dest.

Time

Mode

Additional fields (vary by model)

Auto ownership

HH income

Access / Egress mode

SDCVM

Model	SerialNo	Person	Trip	Tou	HomeZone	ActorType	OPurp	DPurp	I	J	Time	Mode	StartTime	EndTime	StopDuration	TourType
3	1	1	1	1	101	IN	Est	Srv	101	101	4	L	18.066	21.909	0.843	S
3	1	1	2	1	101	IN	Srv	Srv	101	101	5	L	21.909	22.518	0.575	S
3	1	1	3	1	101	IN	Srv	Est	101	101	4	L	22.518	22.553	-	S
3	13	1	1	1	105	IN	Est	Gds	105	120	4	L	18.041	18.292	0.189	G
3	15	1	1	1	105	IN	Est	Est	120	105	5	L	18.292	18.354	-	G
3	16	1	1	1	105	IN	Est	Srv	105	108	5	M	19.780	20.068	0.078	S
3	16	1	2	1	108	IN	Srv	Est	108	105	5	M	20.068	20.277	-	S
3	20	1	1	1	105	IN	Est	Srv	105	108	4	L	18.279	24.414	5.924	S

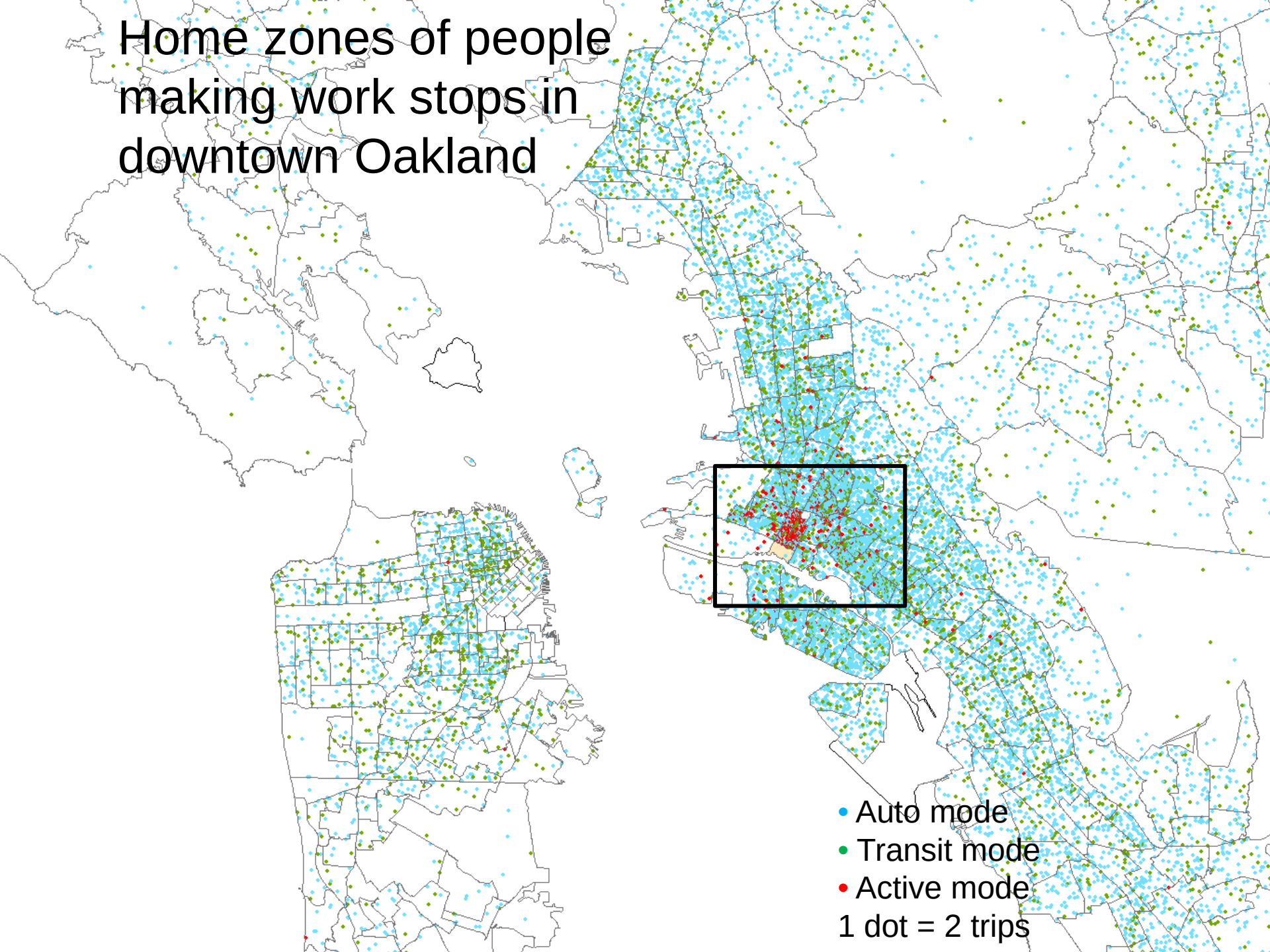
SDPTM

Model	SerialNo	Person	Trip	To	HomeZone	ActorType	OPurp	DPur	I	J	Time	Mode	eg	TourPurp	Dist	Own	Inc	IncAmt	Size	Licens
1	4717818	1	1	1	3100	PS_N_17...	O	L	3100	3105	3	HOV2	0	L	-1	Suff	Low	-1	1	0
1	4717819	1	1	1	3100	WFT_NK_...	O	W	3100	3112	2	SOV	0	W	-1	Suff	Low	-5	1	1
1	4717819	1	2	1	3100	WFT_NK_...	W	H	3112	3133	4	SOV	2	W	-1	Suff	Low	-5	1	1
1	4717819	1	3	1	3100	WFT_NK_...	H	O	3133	3100	4	SOV	2	W	-1	Suff	Low	-5	1	1
1	4717820	1	1	1	3100	WFT_NK_...	O	P	3100	1937	2	SOV	0	W	-1	Suff	Med	19	1	1
1	4717820	1	2	1	3100	WFT_NK_...	P	W	1937	1953	3	SOV	0	W	-1	Suff	Med	19	1	1
1	4717820	1	3	1	3100	WFT_NK_...	W	T	1953	1790	3	SOV	1	W	-1	Suff	Med	19	1	1

LDPTM

Model	SerialNo	Person	Trip	Tou	HomeZone	ActorType	OPurp	DPurp	I	J	Time	Mode	AccMode	EgrMode	HHSize	HHWks	HHInc	HHCars	C
2	1	1	1	1	100	LDPTM	Com	Com	4043	100	4	Air	Rent	Rent	1	1	Low	0	
2	2	1	1	1	102	LDPTM	Com	Com	4066	102	4	HOV3	None	None	1	1	Low	0	
2	3	1	1	1	105	LDPTM	Com	Com	105	2840	3	SOV	None	None	1	1	Low	0	
2	4	1	1	1	106	LDPTM	Com	Com	106	1311	3	HOV2	None	None	1	1	Low	0	
2	5	1	1	1	106	LDPTM	Com	Com	106	1580	5	HOV3	None	None	1	1	Low	0	
2	6	1	1	1	100	LDPTM	Bus	Bus	4549	100	4	Air	Park	Drop	1	1	Low	1	
2	7	1	1	1	100	LDPTM	Com	Com	4579	100	3	SOV	None	None	1	1	Low	1	
2	8	1	1	1	100	LDPTM	Com	Com	5651	100	4	Air	Park	Drop	1	1	Low	1	

Home zones of people making work stops in downtown Oakland



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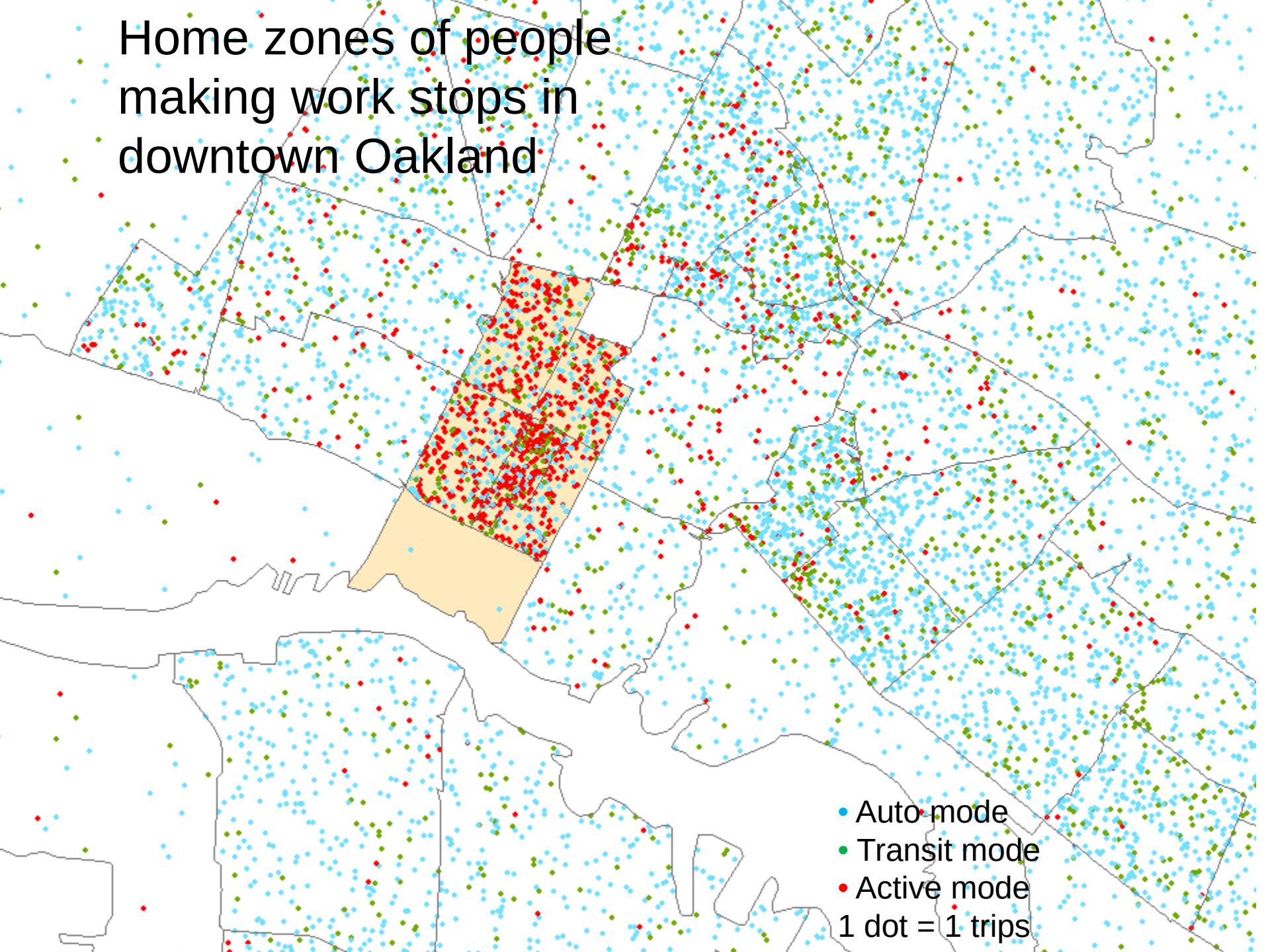
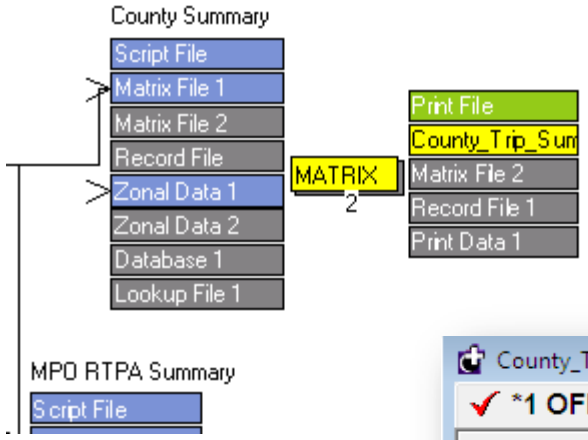


Cube vehicle trip matrices

- Origin-destination vehicle matrices
- By vehicle type and time period
- Standard automated Cube applications:
  - Interregional Trips
  - Through Trips
  - Link-based VMT
    - Region, Speed Bin, Facility Type
  - Interregional VMT

Interregional Trips



County_Trip_Summary.mat-*1 OFF (C:\CSTDM\Trip Summary)

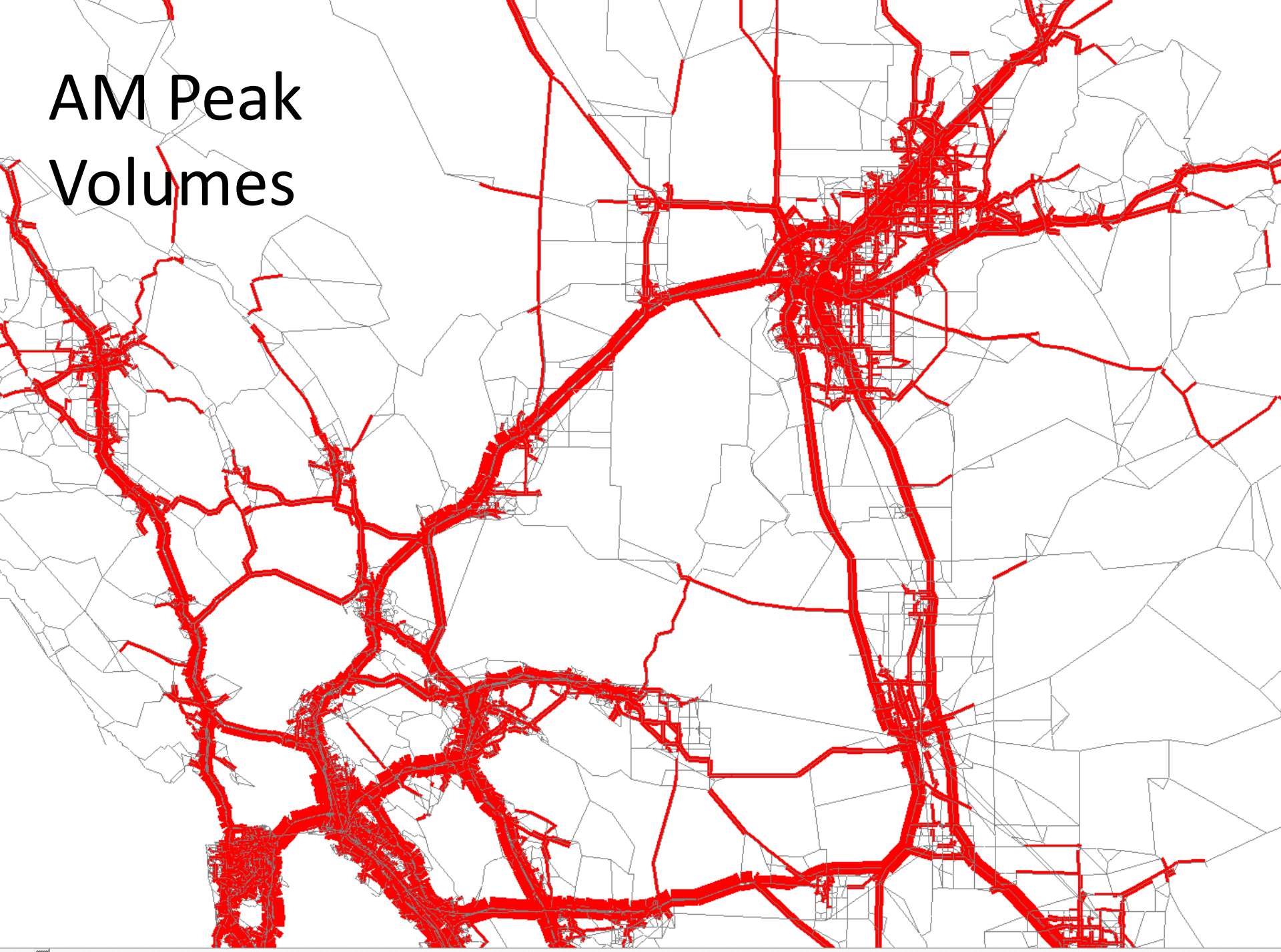
*1 OFF | 2 AM | 3 MID | 4 PM

	Sum	Alameda	Alpine	Amador	Butte	C
	3155978.33	139127.54	187.46	2909.62	18415.37	
Alameda	141641.07	110902.78	0.00	0.92	9.12	
Alpine	181.92	0.68	137.73	0.04	0.00	
Amador	2724.37	3.08	0.30	2181.78	0.21	
Butte	18634.64	7.41	0.00	0.07	17287.97	
Calaveras	3284.56	3.84	0.62	98.00	0.60	
Colusa	1817.79	1.11	0.00	0.18	26.24	
Contra Costa	85169.43	8947.98	0.09	1.75	10.38	
Del Norte	2032.14	0.96	0.00	0.00	0.07	
El Dorado	14028.39	47.41	27.78	110.25	2.53	
Fresno	70819.05	41.75	0.00	1.10	3.09	
Glenn	2272.21	0.98	0.00	0.18	280.93	

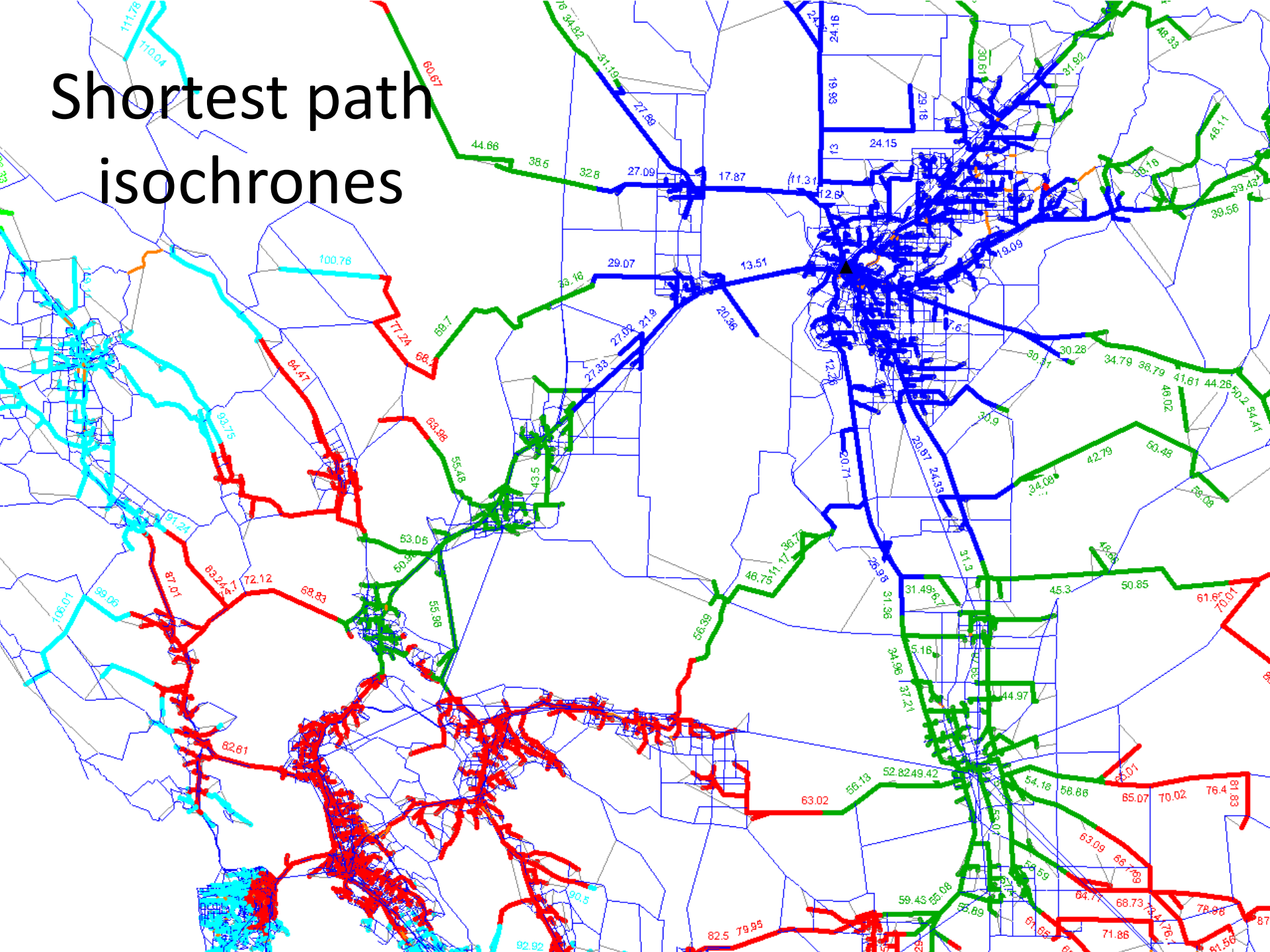
Cube loaded network output

- By time period
- Number of vehicles on each road link
- Additional analysis possible:
  - Volume to capacity ratio
  - “Select link” analysis

AM Peak Volumes

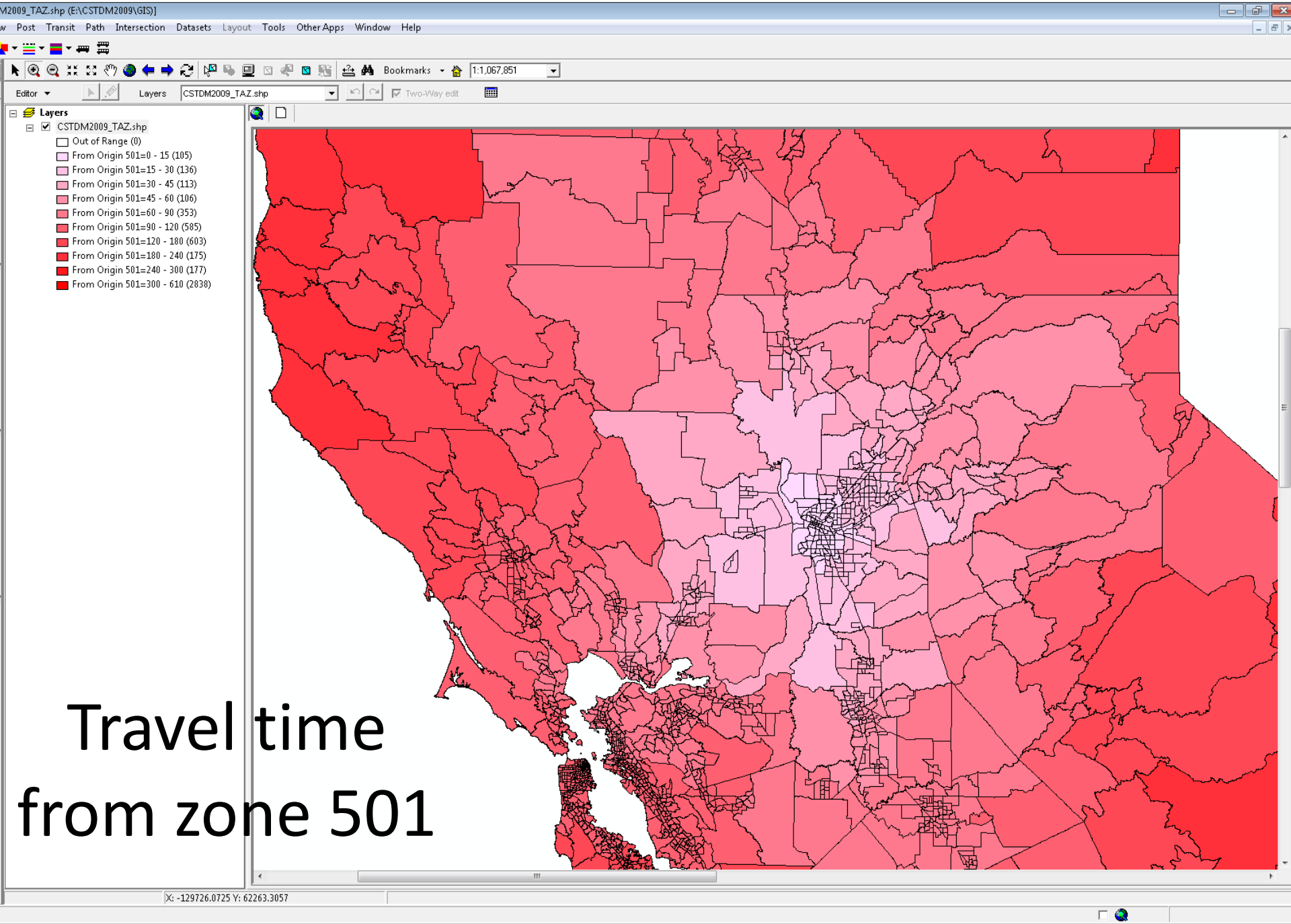


Shortest path isochrones



Cube skim matrices

- Travel times and costs between all zone pairs
- By time period
- By mode
- Auto / commercial vehicle:
  - Time, distance, toll
- Transit:
  - In vehicle time, out of vehicle time, fare
- Input to demand models



Travel time from zone 501