Creating the Policy and Legal Framework for a Location-Enabled Society

CGA 2013 Harvard University

Kara Selke
StreetLight Data Inc.
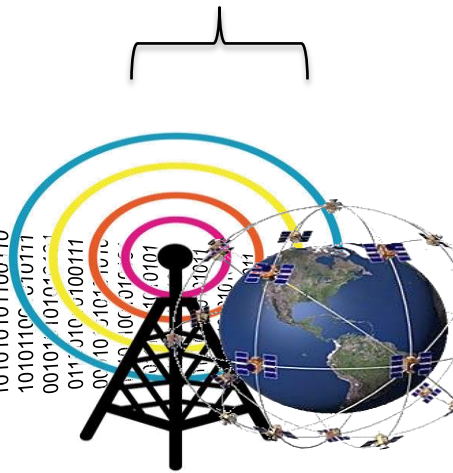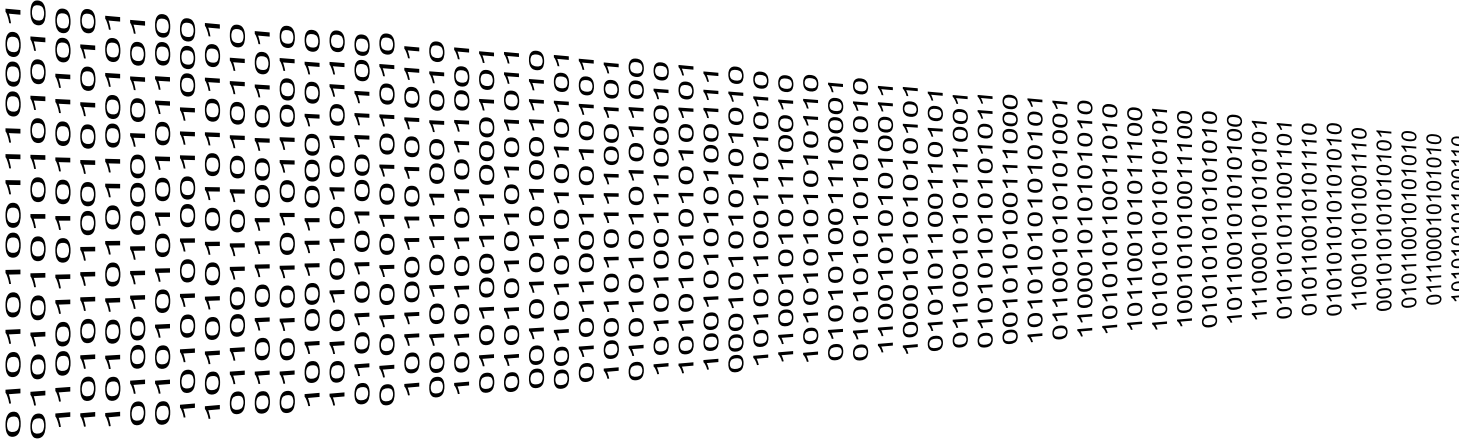**SVP – Strategic Partners & Privacy**

STREETLIGHTDATA

1 year ——— **1 month** ——— **1 day** —— **15 min** **REAL TIME**

Data Exhaust
(older, de-identified)

RT mobile data is used for Location Based Services

Process: Contextualizing Mobile Data Exhaust
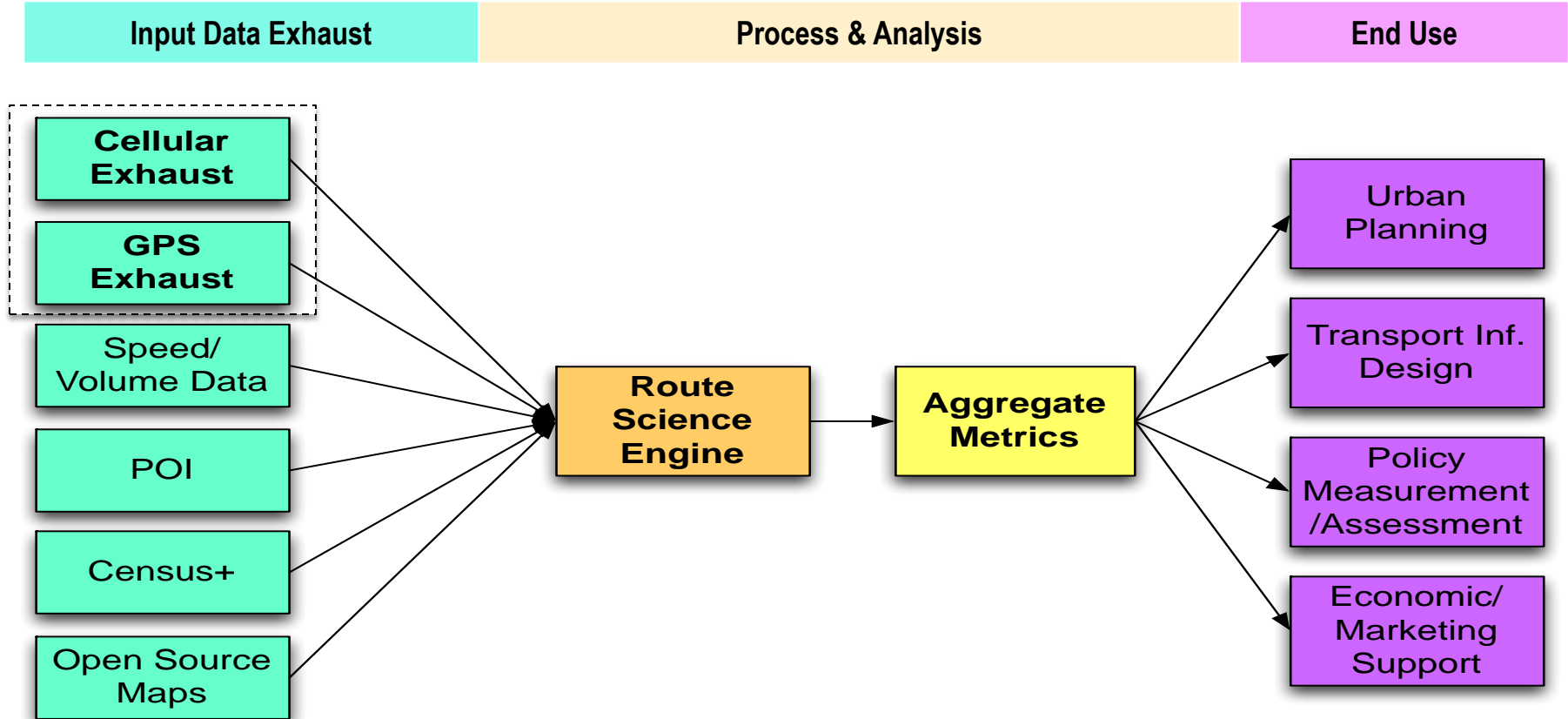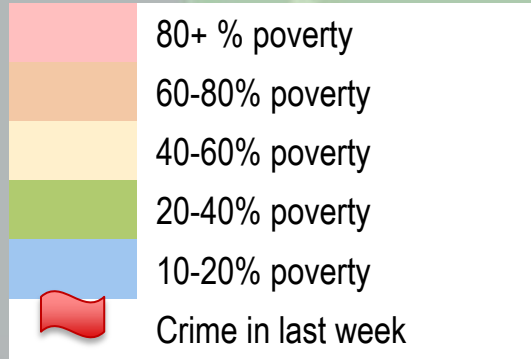
Input Data Exhaust	Process & Analysis	End Use

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LEGEND
- 50-100 ppl/month
- 100-800 ppl/month
- 800-3000 ppl/month
- 3000-5500 ppl/month
- Zone of interest

**Map of Origin Block for Groups Who Shopped/Dined/Worked in the Zone During October 2012**
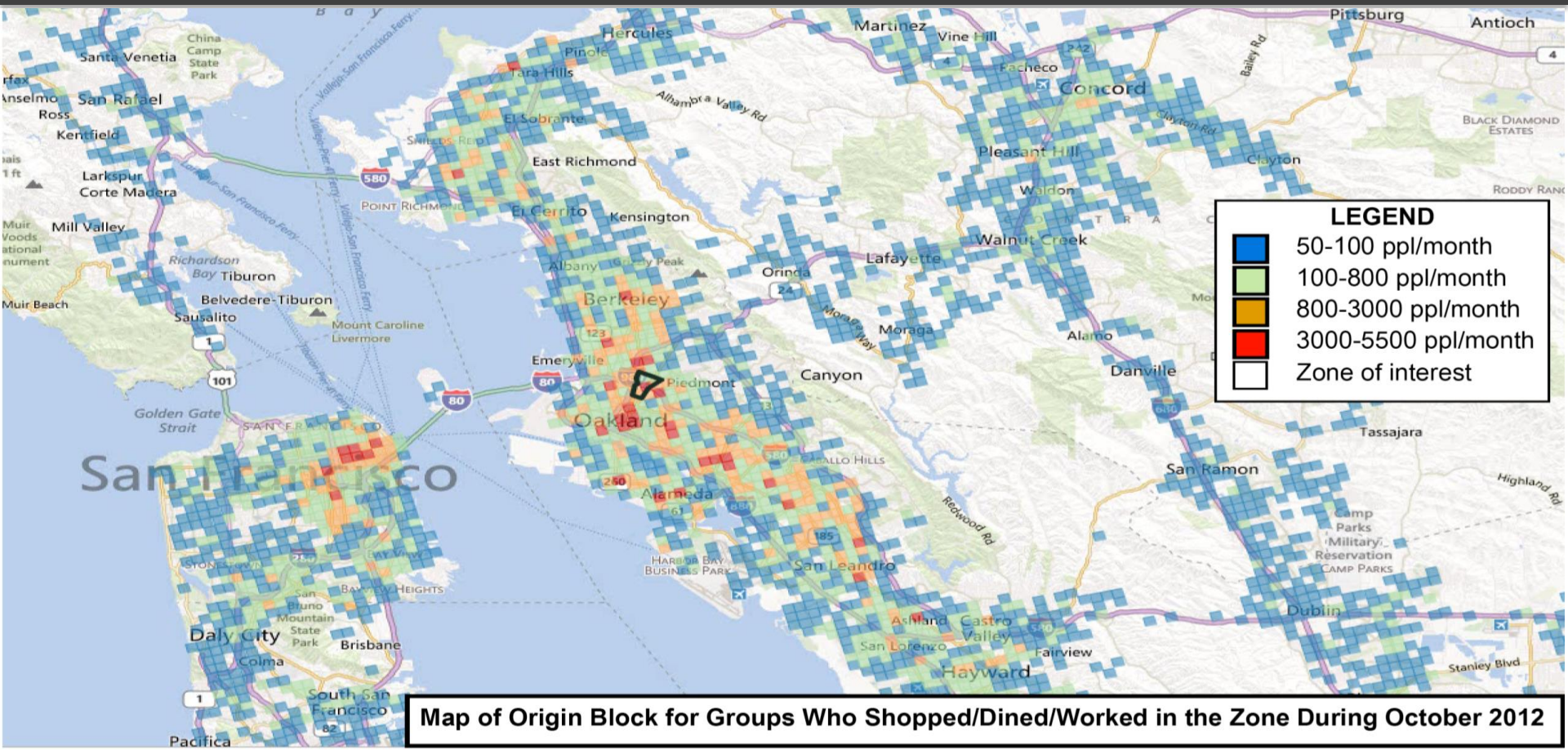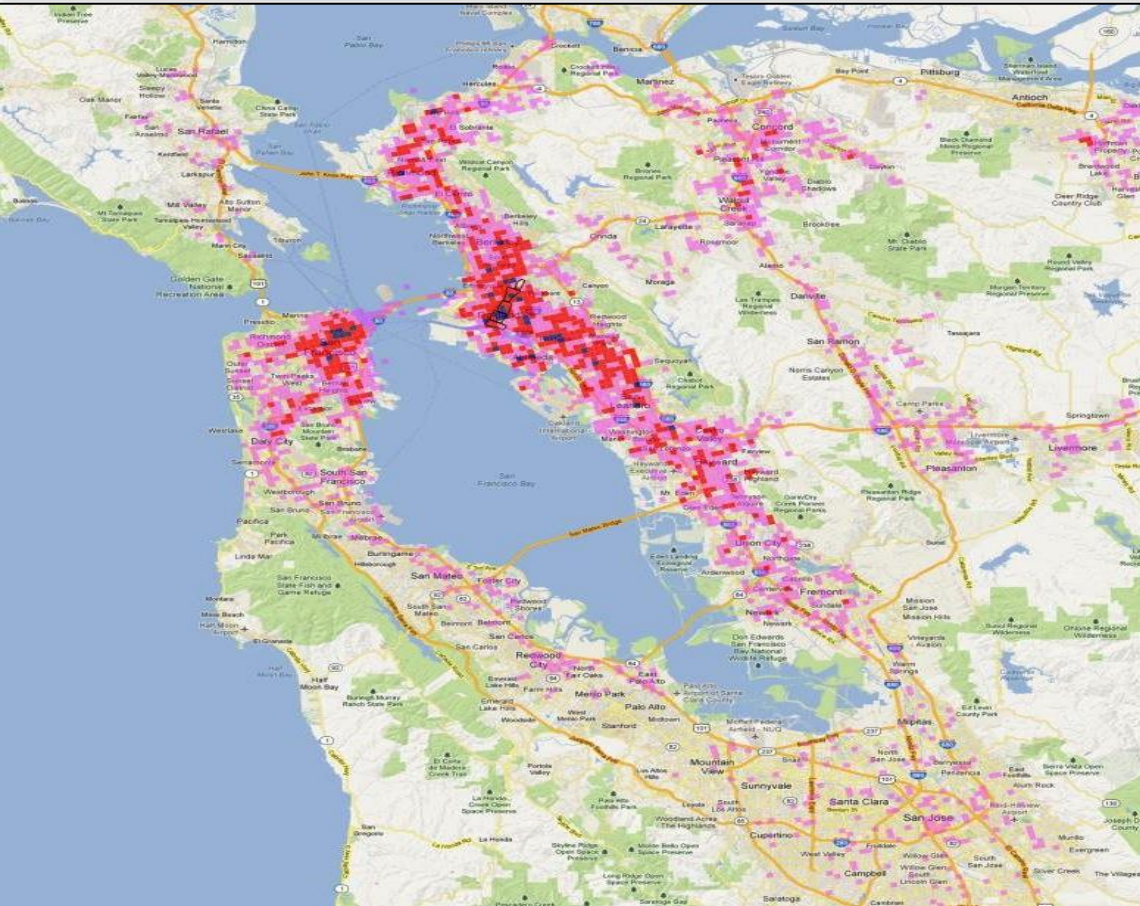
Home Locations of People Who Work in the Corridor

Each colored square (about 0.25km^2) indicates that at least 50 people who live in the square visit the Broadway Corridor at least once during the month.

🟪	100-800 people/month
🟥	800-3000 people/month
🟦	3000-5500 people/month
----	Zone boundaries
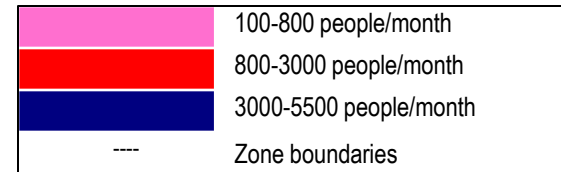
StreetLight InSight: Improve Store Performance by Knowing How Customers Use Their City

Who already shops in this neighborhood? What is their income range and ethnicity?

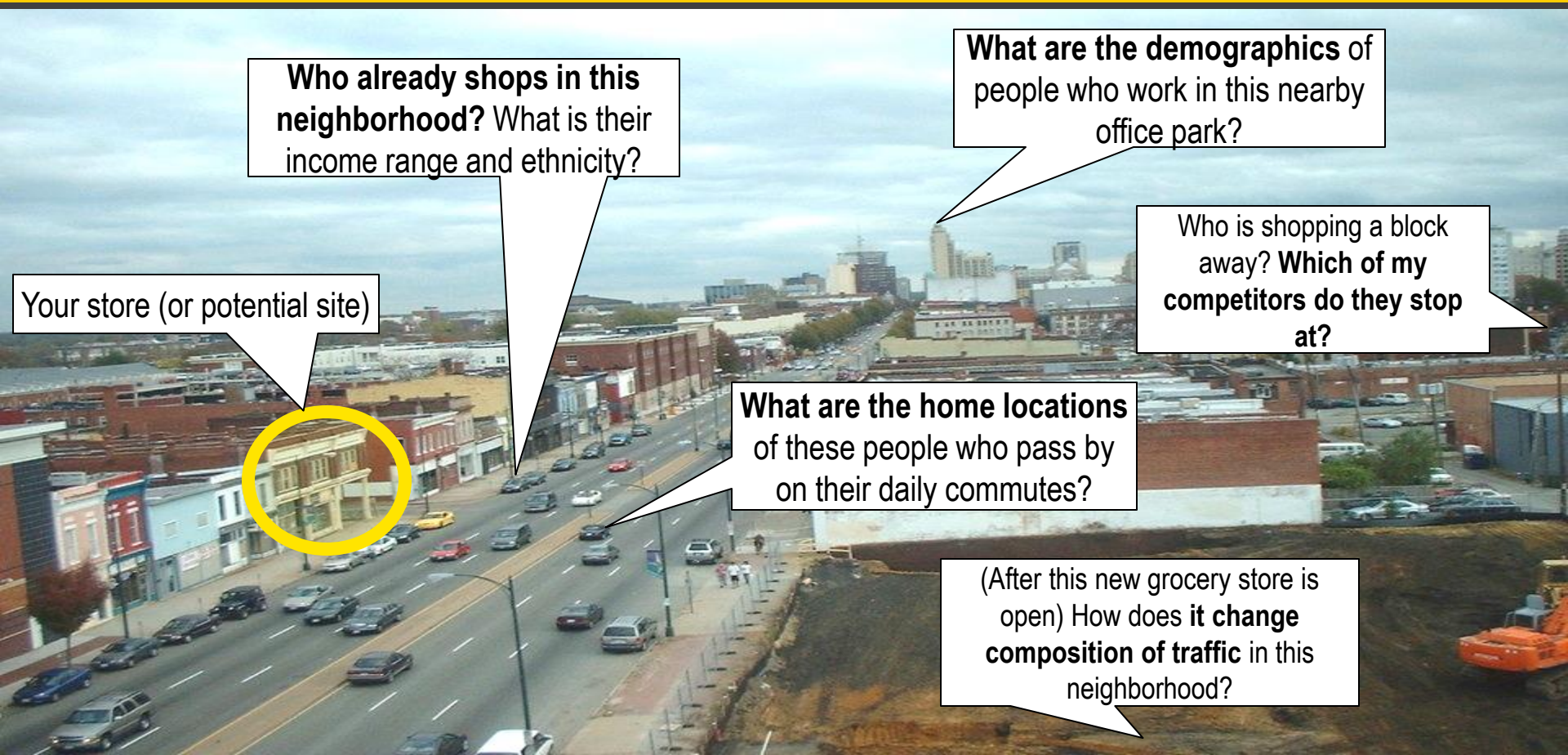What are the demographics of people who work in this nearby office park?

Who is shopping a block away? Which of my competitors do they stop at?

Your store (or potential site)

What are the home locations of these people who pass by on their daily commutes?

(After this new grocery store is open) How does it change composition of traffic in this neighborhood?

VP Planning / Real Estate
reduces site selection risk

VP of Marketing improves
Marketing ROI

"SpeedyMart" Wants to Improve Marketing ROI by Differentiating Stores in a Chain

- **Client problem:** "For stores in the same county, we market the same, stock the same, manage the same…but they perform completely differently."

- **StreetLight InSight:** Analyze drive-by demographics and top home/work locations for six stores, by time of day and day of week.

- **Outcome:** Target marketing buys on key channels to increase conversion rate per dollar spent.

Store location

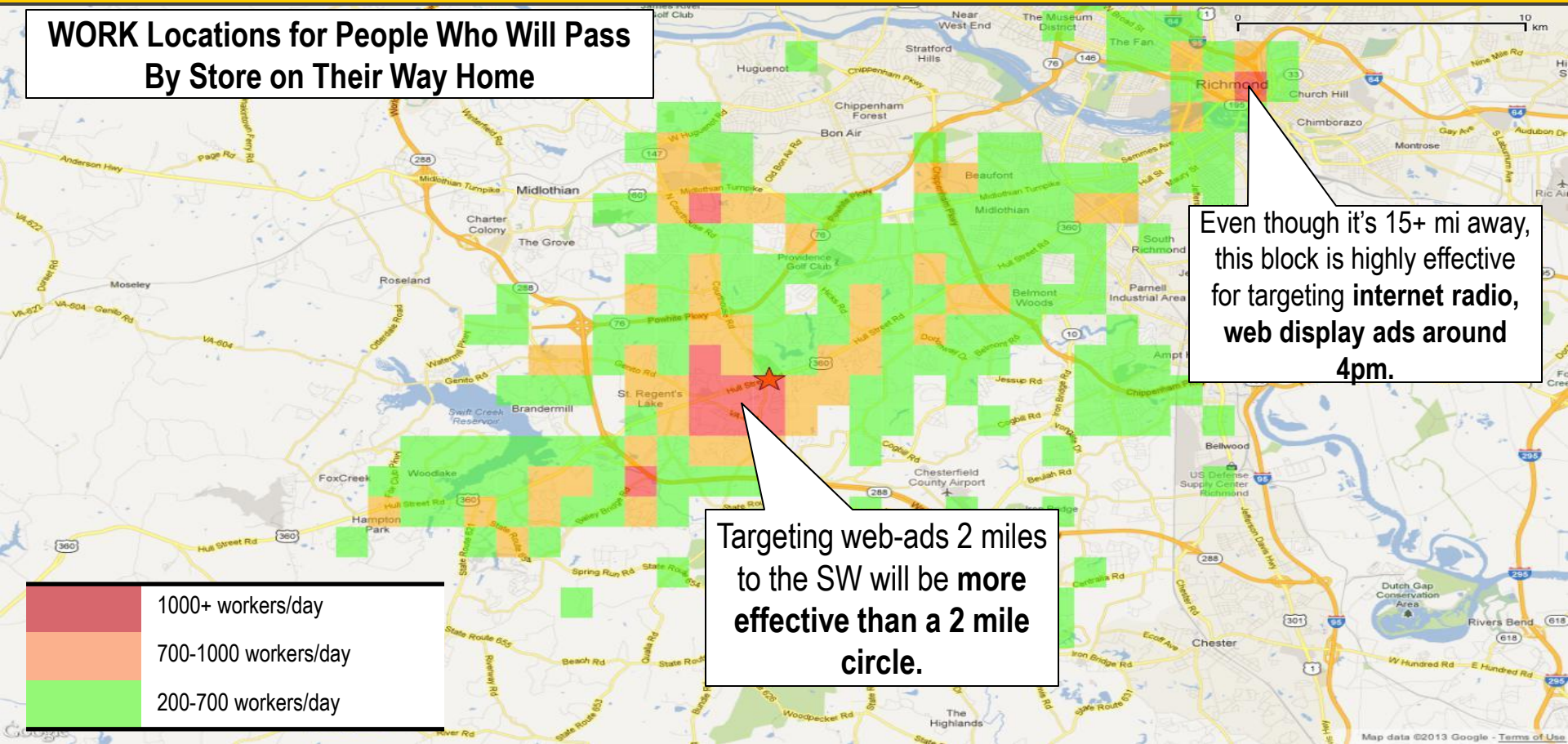1-mi radius

5-mi radius
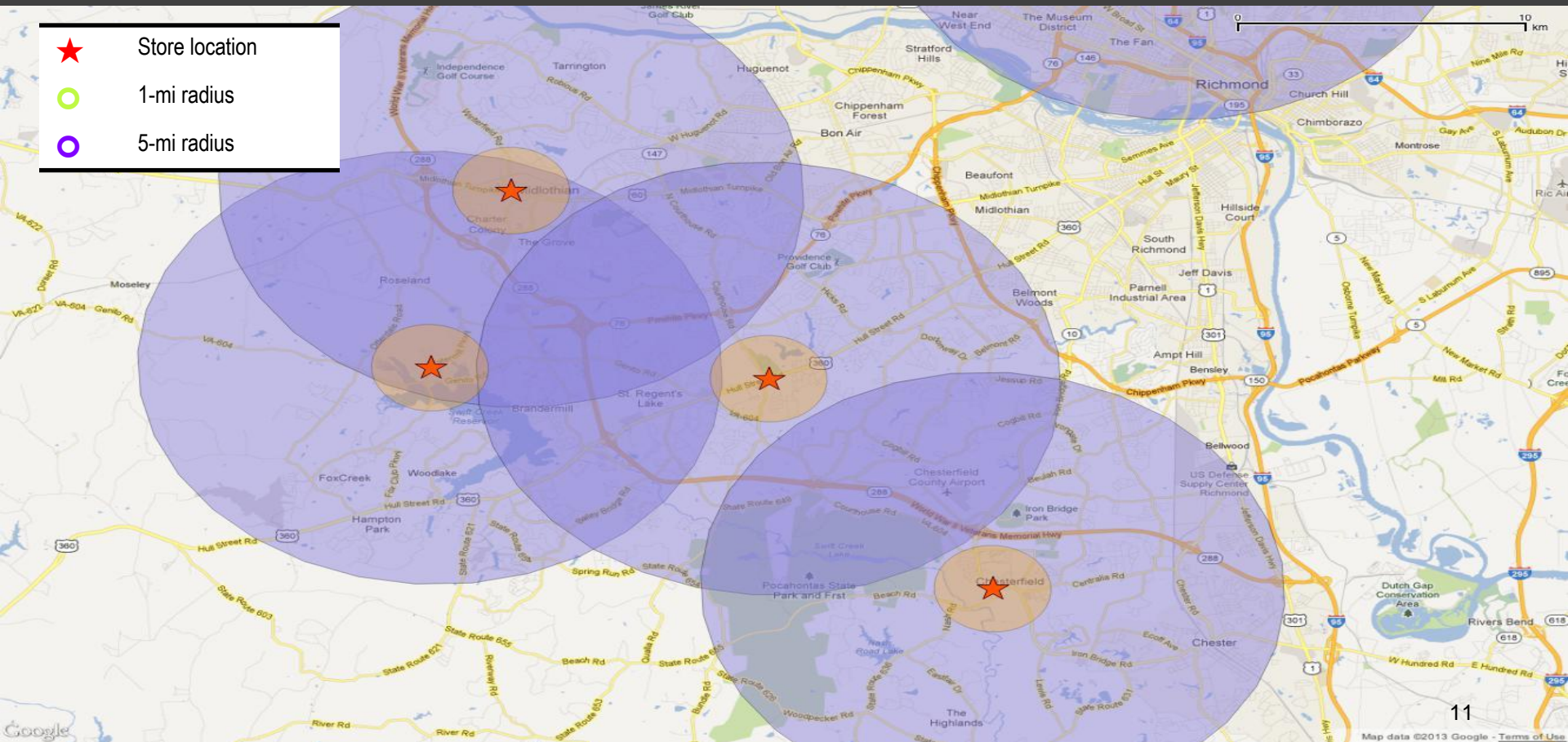
Legend:
★ Store location
■ 23112 zip code

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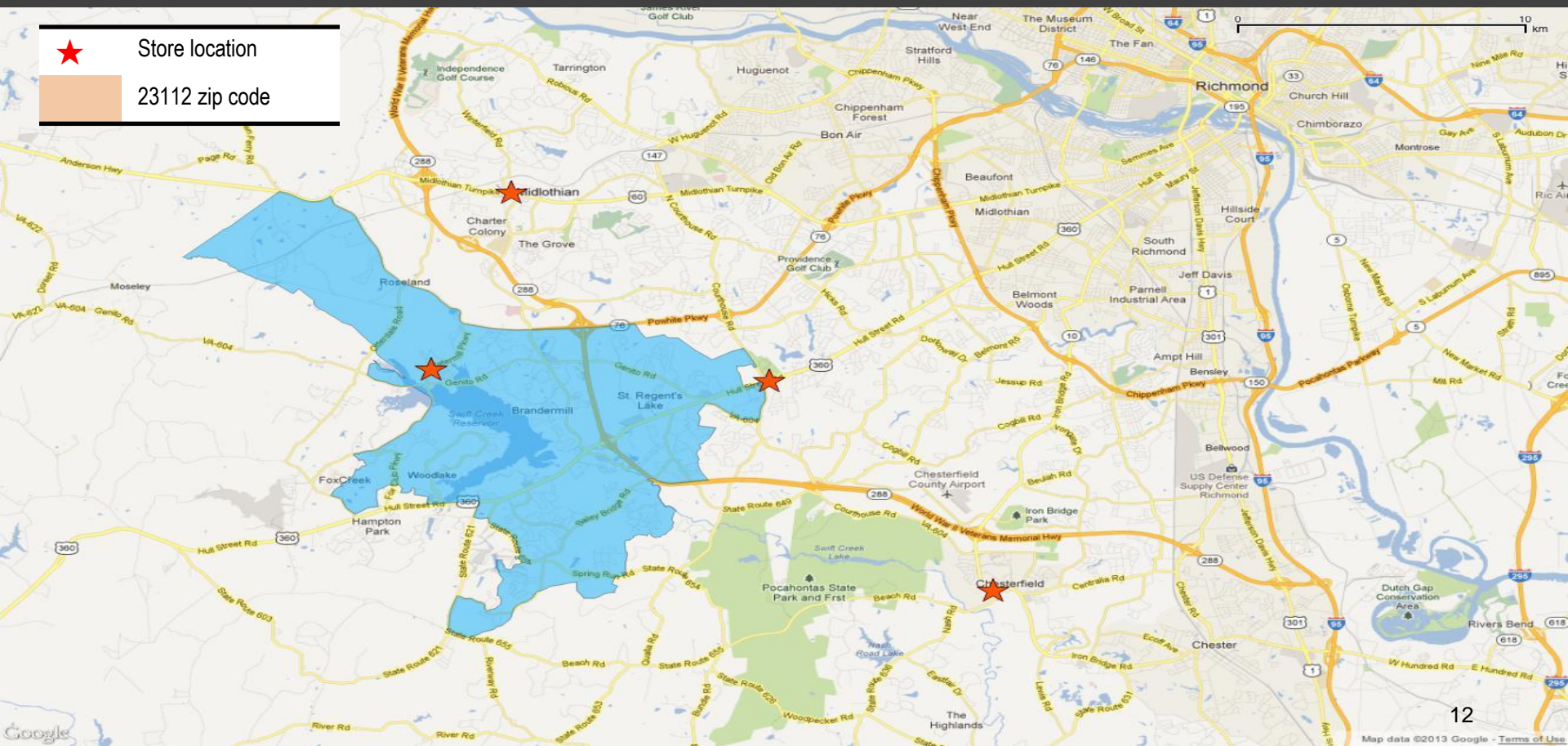
The StreetLight Way:
Targeted Marketing by Geography, Demographic

WORK Locations for People Who Will Pass By Store on Their Way Home

Even though it's 15+ mi away, this block is highly effective for targeting **internet radio, web display ads around 4pm.**

Targeting web-ads 2 miles to the SW will be **more effective than a 2 mile circle.**

1000+ workers/day

700-1000 workers/day

200-700 workers/day
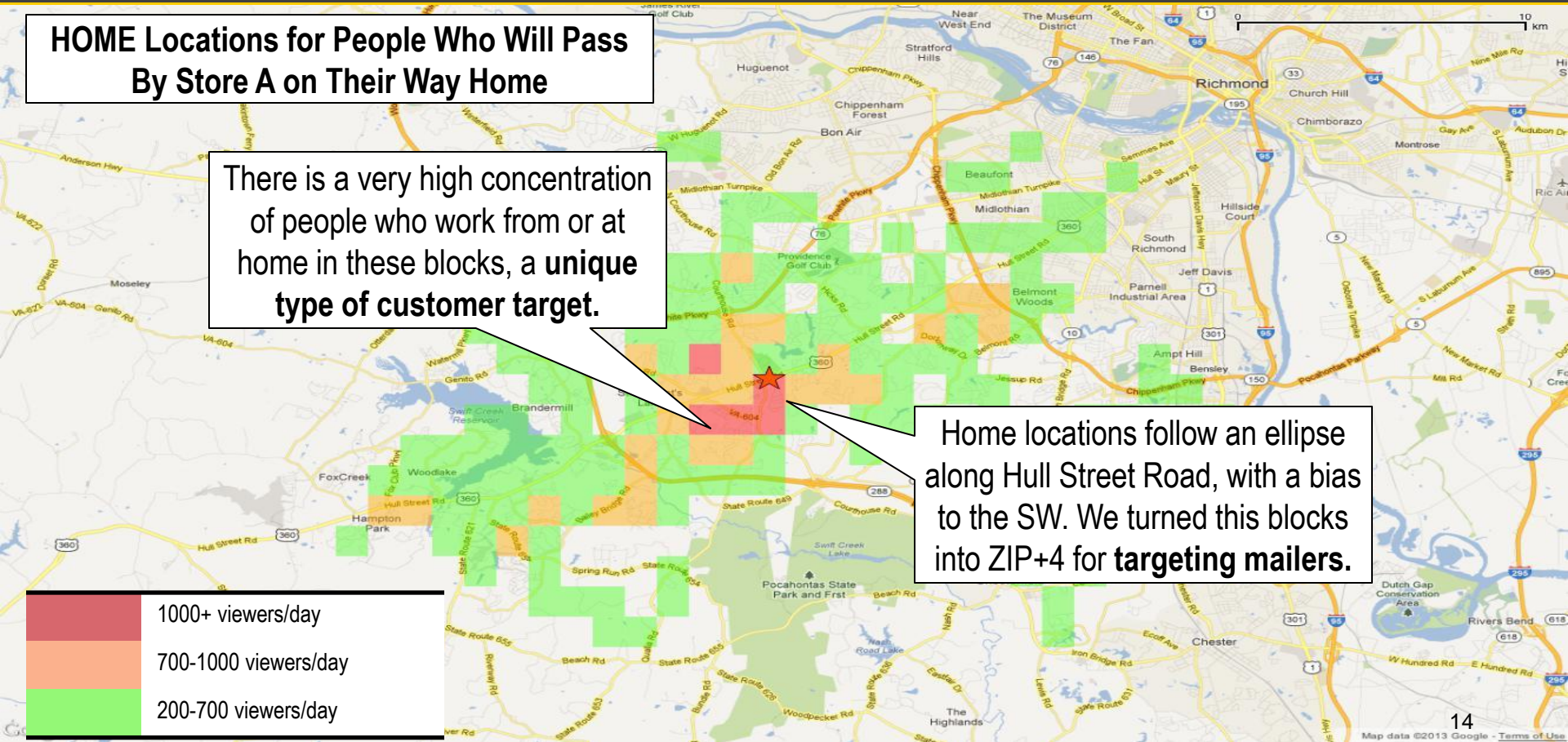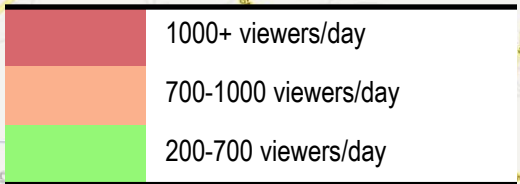
Map data ©2013 Google - Terms of Use

The StreetLight Way:
Targeted Marketing by Geography, Demographic

HOME Locations for People Who Will Pass By Store A on Their Way Home

There is a very high concentration of people who work from or at home in these blocks, a **unique type of customer target.**

Home locations follow an ellipse along Hull Street Road, with a bias to the SW. We turned this blocks into ZIP+4 for **targeting mailers.**
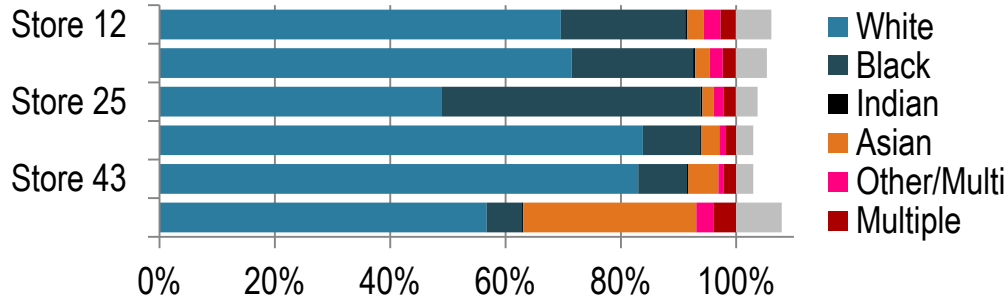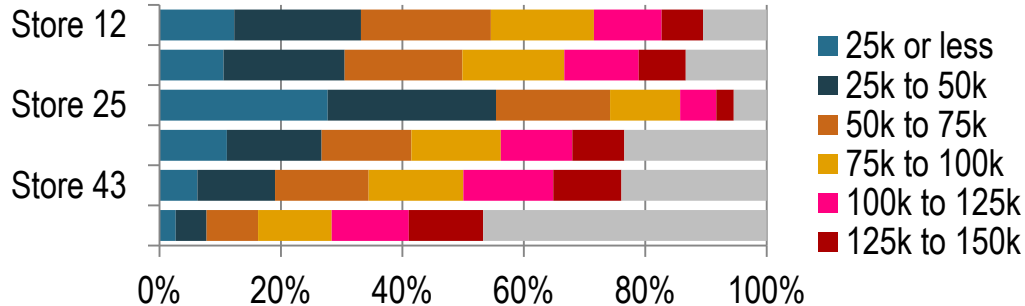
1000+ viewers/day

700-1000 viewers/day

200-700 viewers/day

14

Race Distribution for Weekday Viewers

Legend:
- White
- Black
- Indian
- Asian
- Other/Multi
- Multiple

Household Income Distribution for Weekday Viewers

Legend:
- 25k or less
- 25k to 50k
- 50k to 75k
- 75k to 100k
- 100k to 125k
- 125k to 150k

Implications for Marketing

- Stores, though all w/in 6 miles, have different potential customer base.

- Stores 35+43, and 12+20 are similar to each other → new grouping?

- Different products and marketing messages may be better at different stores.
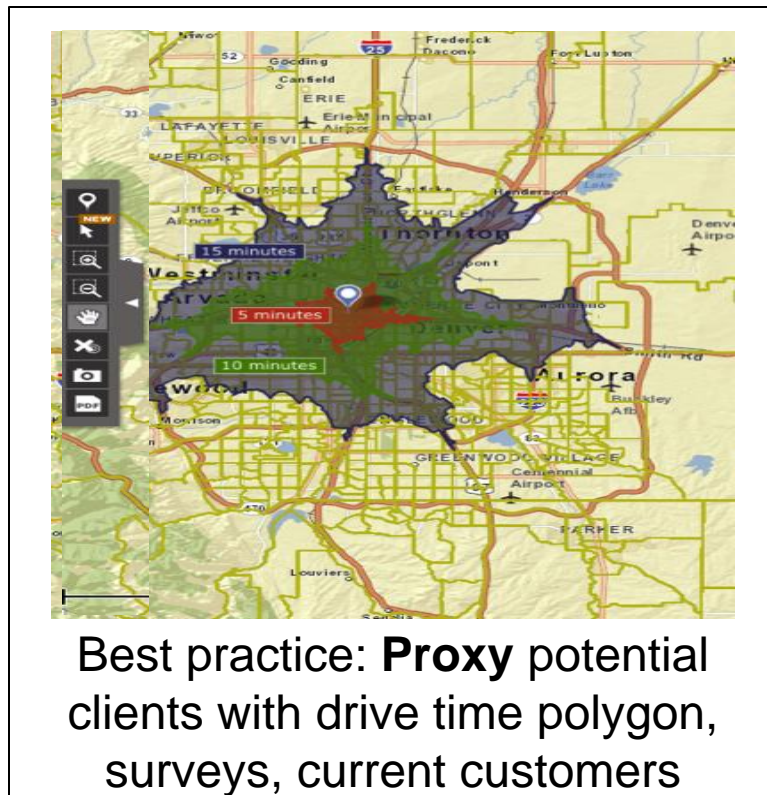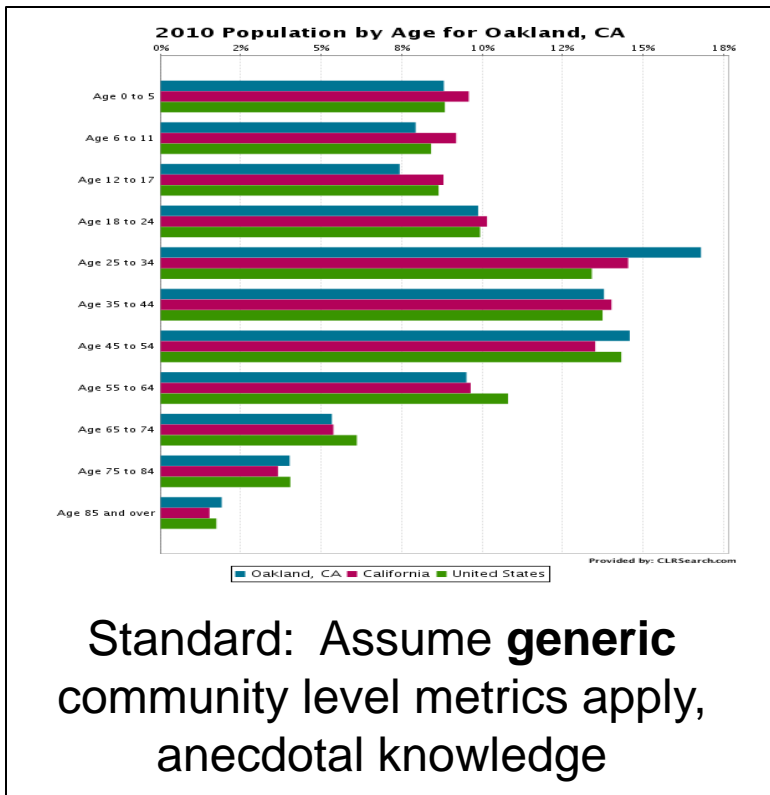
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"Ben's Auto Shop": 7 Stores with plans to expand to 3 more next year

- **Client problem:** "There are ten properly zoned sites in the Denver/Boulder area. Which three are the most likely to succeed for us?"

- **StreetLight InSight:** Analyze how the ten sites compared to the two most successful existing sites.

- **Outcome:** Use StreetLight InSight as one input into the critical site-selection decision process.

2010 Population by Age for Oakland, CA

Standard: Assume **generic** community level metrics apply, anecdotal knowledge

Best practice: **Proxy** potential clients with drive time polygon, surveys, current customers

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Home Location Footprint of Two Boulder Stores in Ben's Auto

Ben's footprint reaches to Longmont, but not Lyons, which is closer.

Despite having several nearby stores, Ben's Auto doesn't cover people in this area.
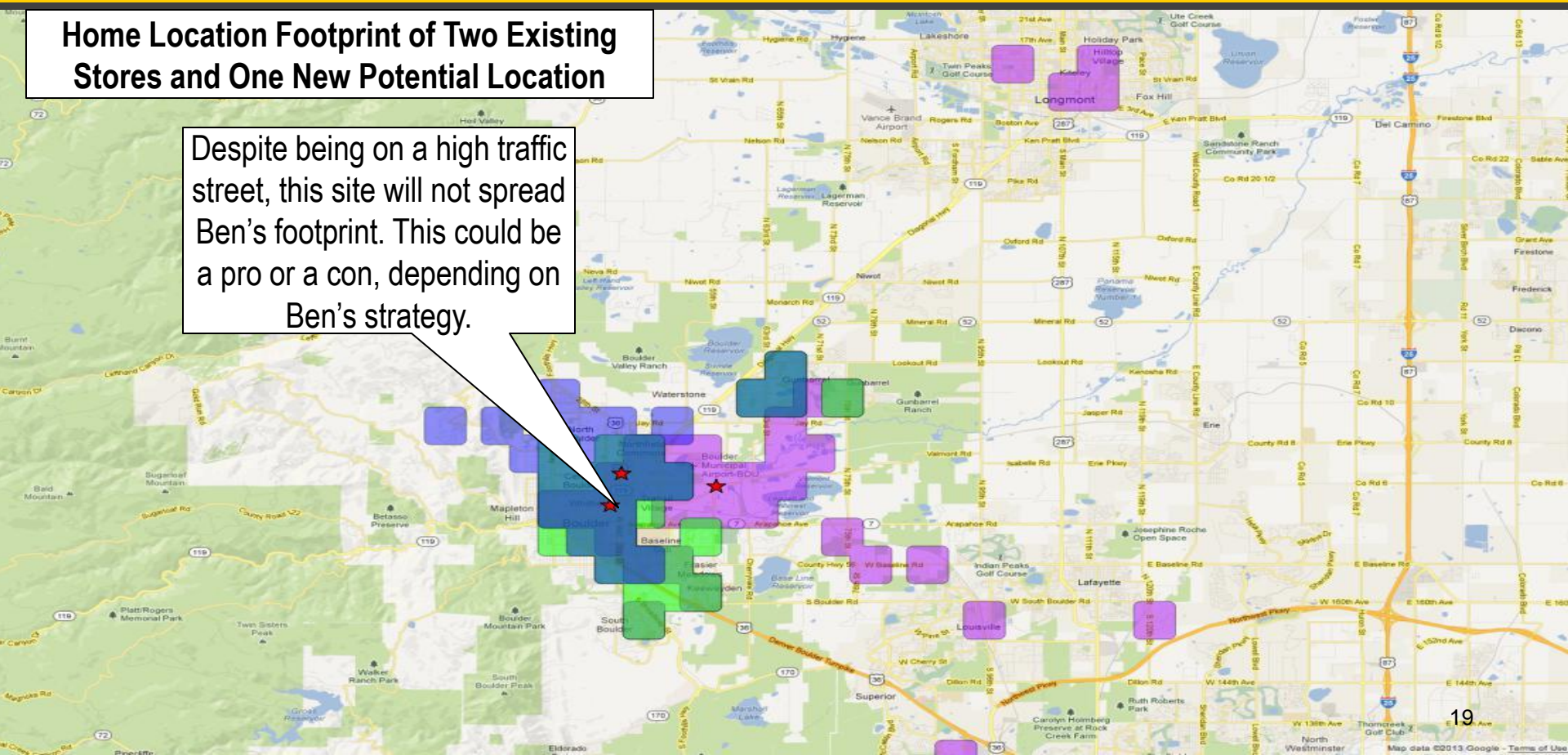
18
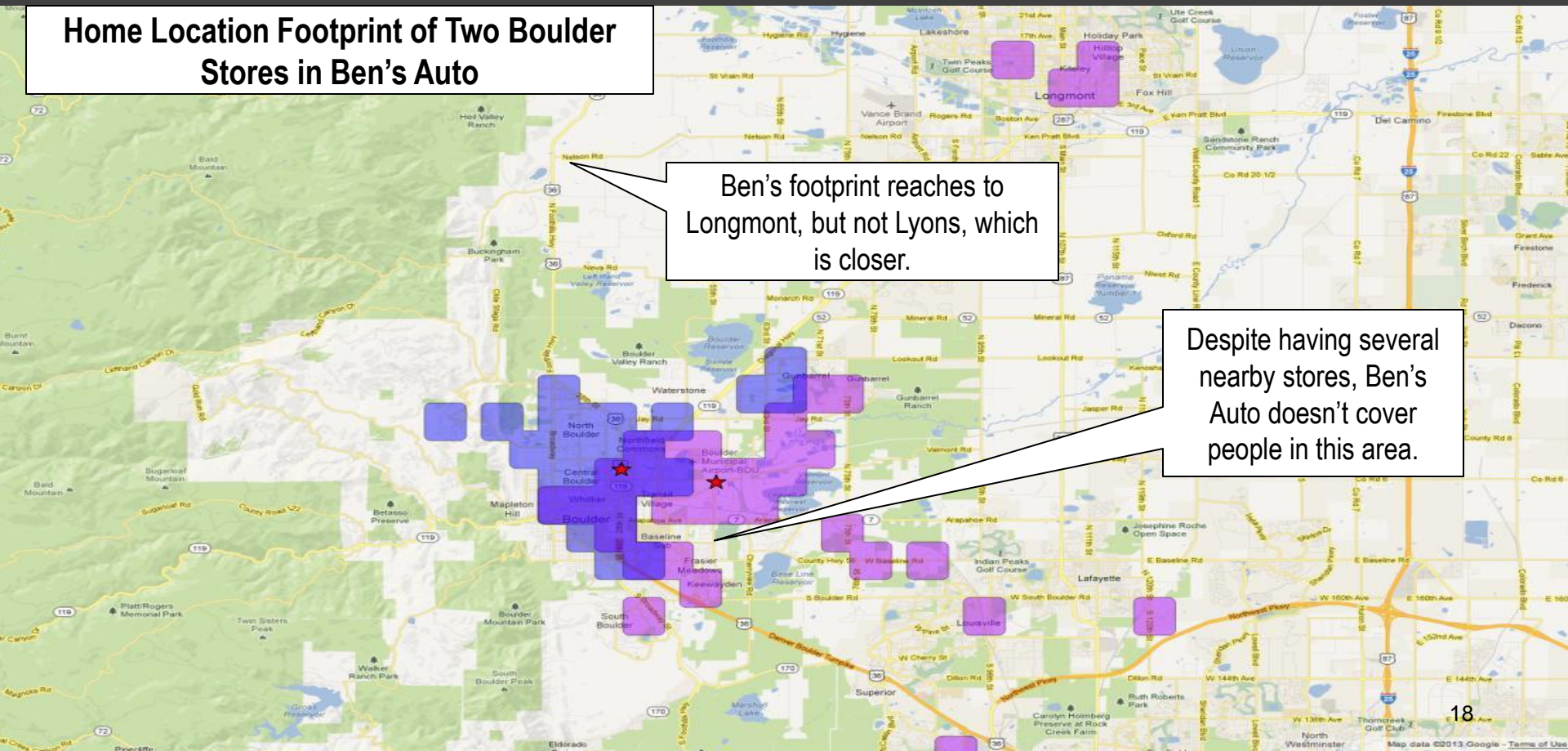
The StreetLight Way:
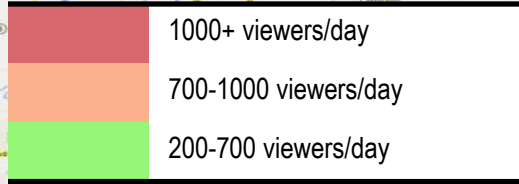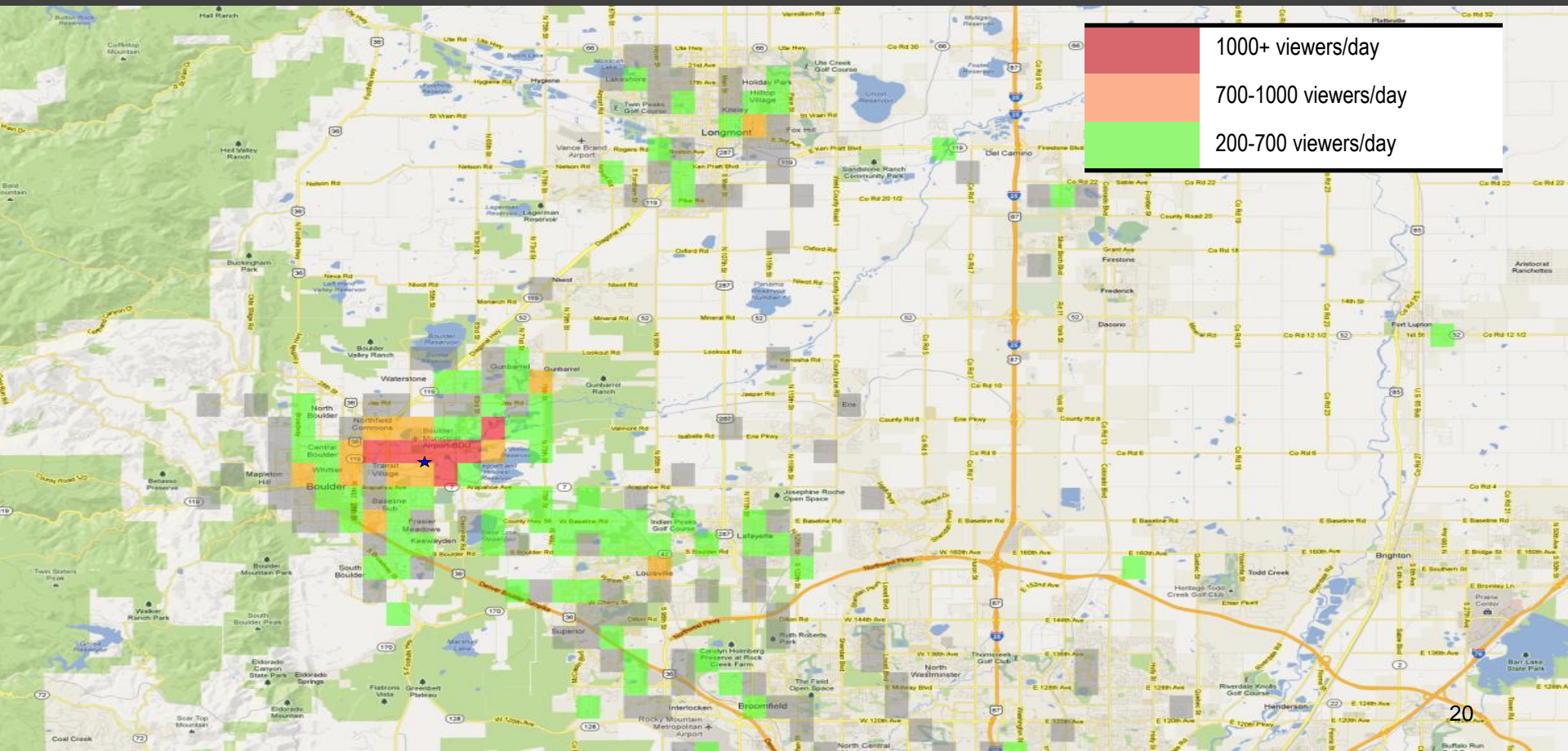## Better Understanding of Cannibalization Potential

Home Location Footprint of Two Existing Stores and One New Potential Location

Despite being on a high traffic street, this site will not spread Ben's footprint. This could be a pro or a con, depending on Ben's strategy.
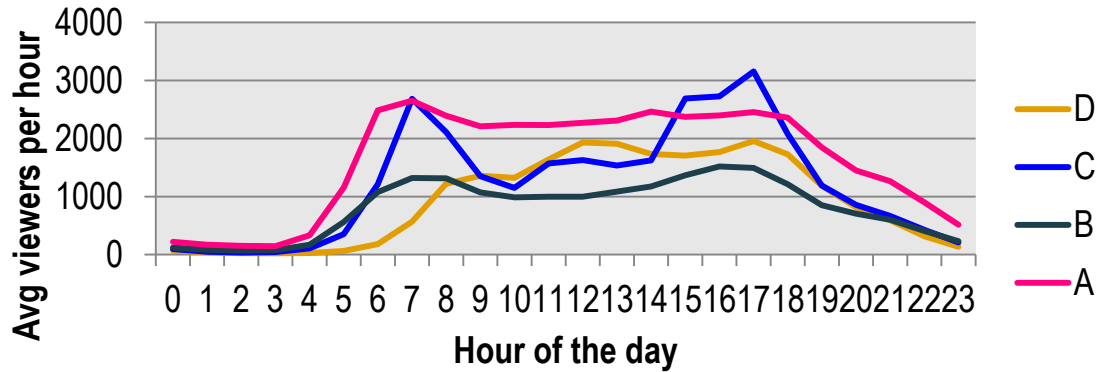
Legend:
- 1000+ viewers/day
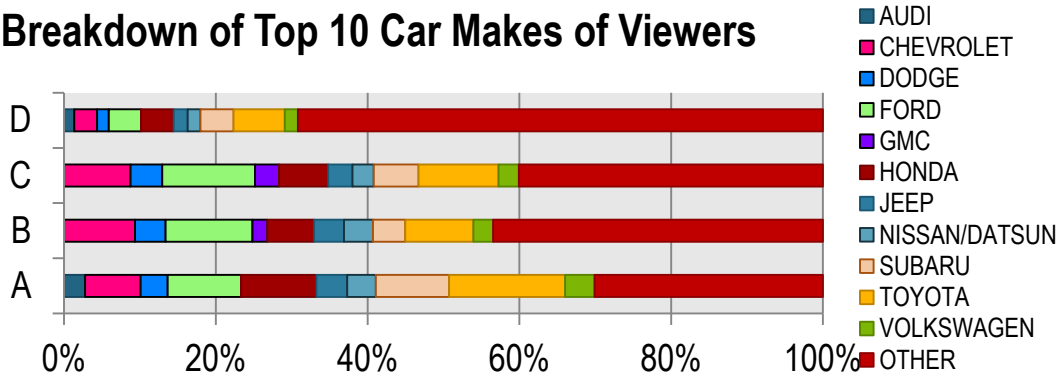- 700-1000 viewers/day
- 200-700 viewers/day

The StreetLight Way:
The Same Site Won't Work Well for All Businesses

Commute-dominated Site C is best for Ben's.

Site A would be great for a restaurant.

Breakdown of Top 10 Car Makes of Viewers

Ben's specializes in domestic vehicles. Thus, Sites B and C are best for him.

What Questions Can We Answer With These Metrics?

A

Site Metrics
1. *Driver count
2. Driver views
3. Drive Access

B

B: Trip Demographics
1. Trip purpose distribution
2. Trip origin/destination distributions
3. *Home cell distribution
4. *Work cell distribution
5. *Other frequent places distributions
6. Trip length
7. Frequency of views

C

Household-Constant Demographics
1. *Household income distribution
2. *Race distribution
3. *Language spoken at home distribution
4. *Presence/age range of children in the household.

D

Individual Demographics
1. Gender
2. *Detailed age Model
3. *Detailed car driven Model
4. *Psychographics
5. Individual shopping/travel patterns

Stepping Back & Looking Forward – Privacy Issues?

- **Yes – real and "perceived"**

- **What I have learned**

- **Approach & Recommendations for the Future:**

  - **Consider "contextual aggregation"**

  - **Don't wait for the law to catch up BUT anticipate changes to the law and educate the lawmakers through forums such as the Centre for Spatial Law and Policy**

  - **Develop sector/industry based Codes of Practice**

  - **Do not underestimate the power of the Court of Public Opinion**

Streetlight Data

Market Right. Site Right. StreetLight.

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