



# PEOPLE on the STREETS

Kelly McGillivray  
Peoplecount

*We set out to find...*

**HOW MANY**

people

**WALK**

on streets?

*We wanted to estimate...*

**24-hour** mid-block count

**2 sides** of the street

**2 directions** of travel

Across an  
**ENTIRE**  
city!

*I'm going to tell you...*

**HOW** we did it

**WHAT** we created

**WHY** it's useful

**HOW** we did it



*We did field work...*

**7** cities

**560** pedestrian counts

**60** km of sidewalk



# FIELD TESTS





# 3 COUNT SOURCES:

Stationary cameras

Mobile camera

Manual counts



**Stationary cameras – 18 hour counts**





**Mobile camera – 12 hour counts**



Date: \_\_\_\_\_

### SURVEY

STATEMENT	RATING (fill in circles completely)					N/A
	Strongly Agree 1	Agree 2	Neutral 3	Disagree 4	Strongly Disagree 5	
1. My experience exceeded my expectations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I had to wait a long time before I was helped.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I was able to talk with staff when I was needed to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. My overall experience with your firm was a positive one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Finding your office was not difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. If I had a complaint, it was handled.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I received services that were very helpful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The staff helped me find additional services that I needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I received my services in a timely fashion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I would recommend this firm to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The company representative showed me respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. My experience was better than others compared to other firms I have worked with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I would return here in the future if I had a need for the services you offer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I found the environment pleasant and conducive to accomplishing my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I would consider working here.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I found the range of services offered to be too narrow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The people who helped me seemed genuinely interested.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. The representative I worked with made me feel comfortable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The representative I worked with made avoided eye contact and didn't seem to care about my situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please add any additional comments you may have below:

**Manual counts – 5 min./block/hour**



# Chicago Pedestrian Counts



**WHAT** we created



# CHALLENGES

- ✓ Economical
- ✓ Universal data sources
- ✓ Apply to **ANY** city



# **VARIABLES** Tested

Local

Census

Spatial

# LOCAL Variables

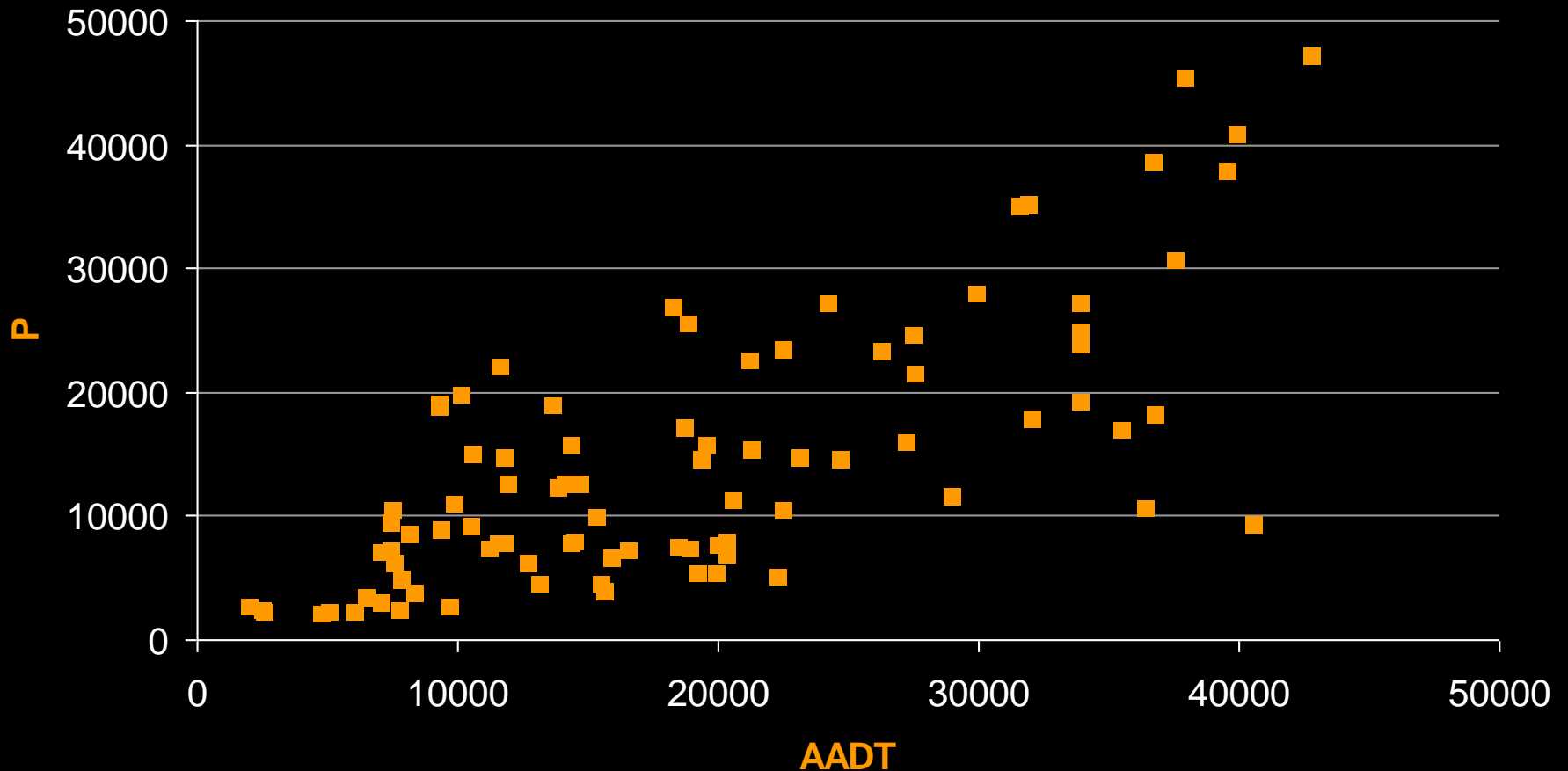
AADT

Road Class

Transit Stop

One Way

# Pedestrian Volume vs AADT



# CENSUS Variables

Population density

Employment density

Mode Choice

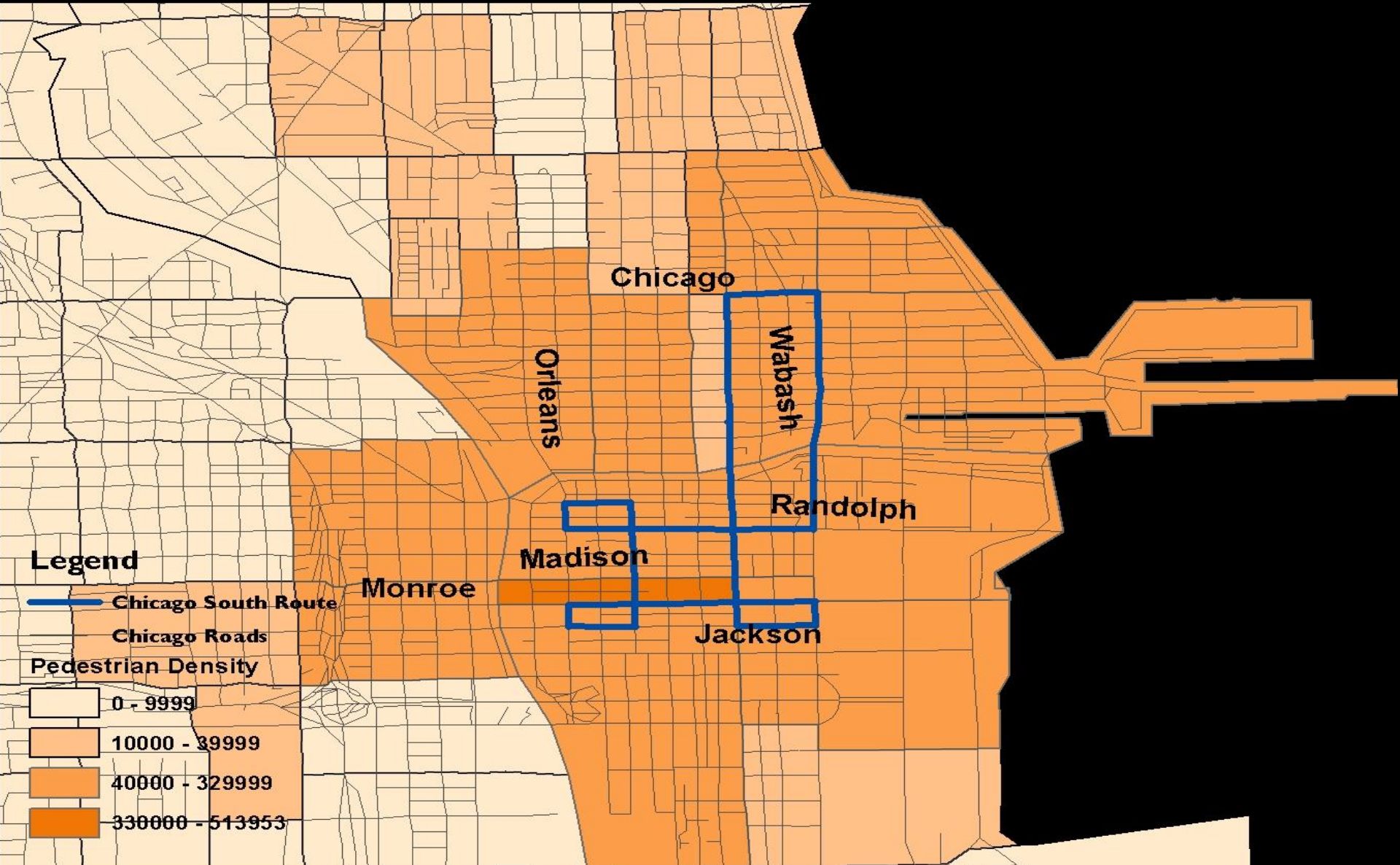
*We created a new variable...*

# **Pedestrian Density**

= Daytime Population

X % Non-Drivers

# Chicago Pedestrian Density



# SPATIAL Variables

Axial line length

Average depth

*What are spatial variables?*



# AXIAL Mapping

- ✓ Draw **lines of sight**
- ✓ 1 km buffer
- ✓ Analyze with software
- ✓ **13** integration variables



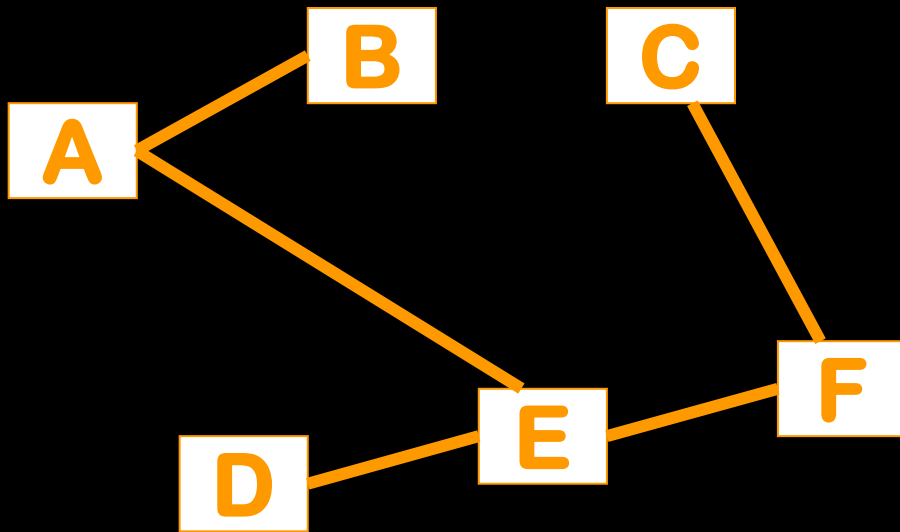
# Sample Axial Map





# AVERAGE DEPTH

# steps from one point in system  
to all other points.

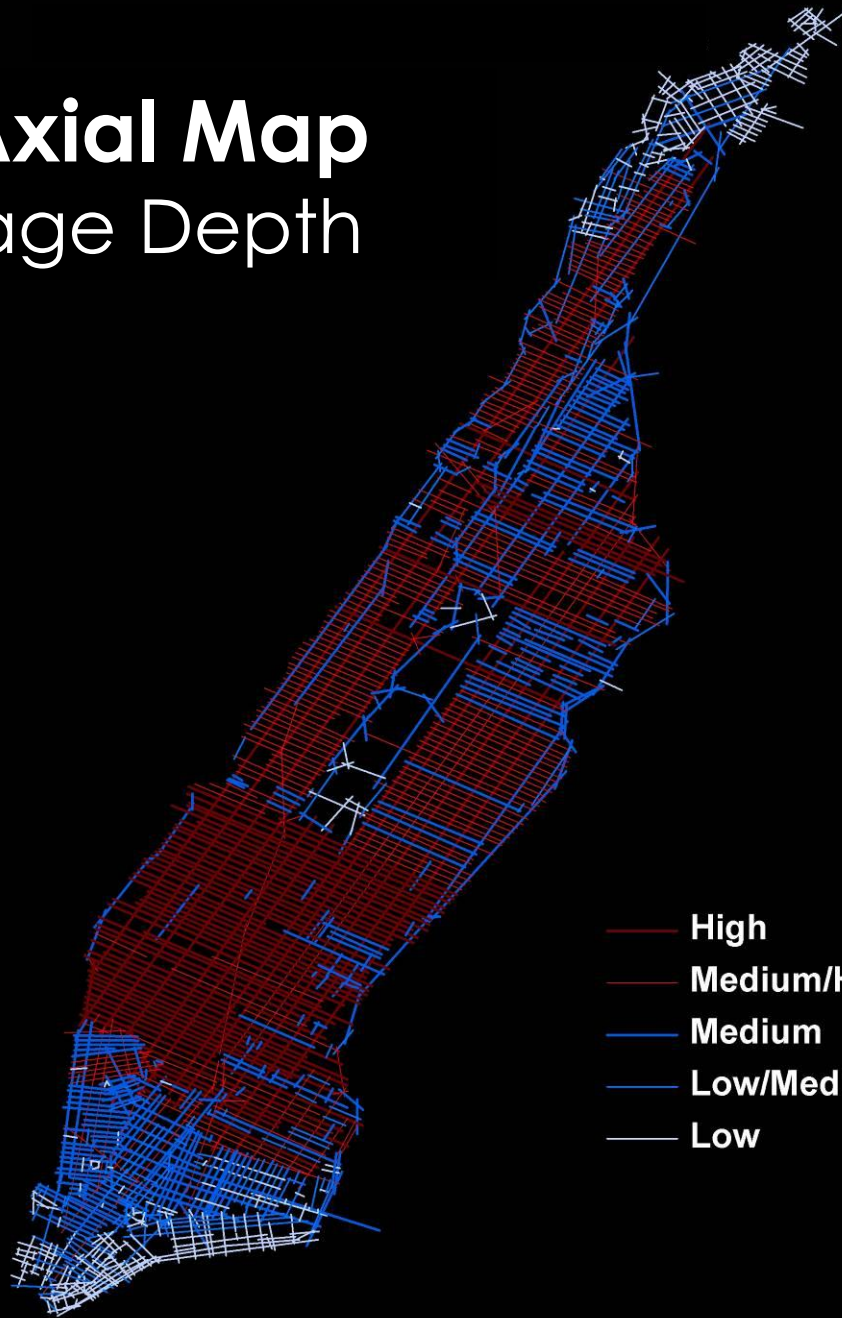


A → B	1
A → E	1
A → D	2
A → F	2
A → C	3

Avg Depth of A  
 $= 9/6 = 1.5$

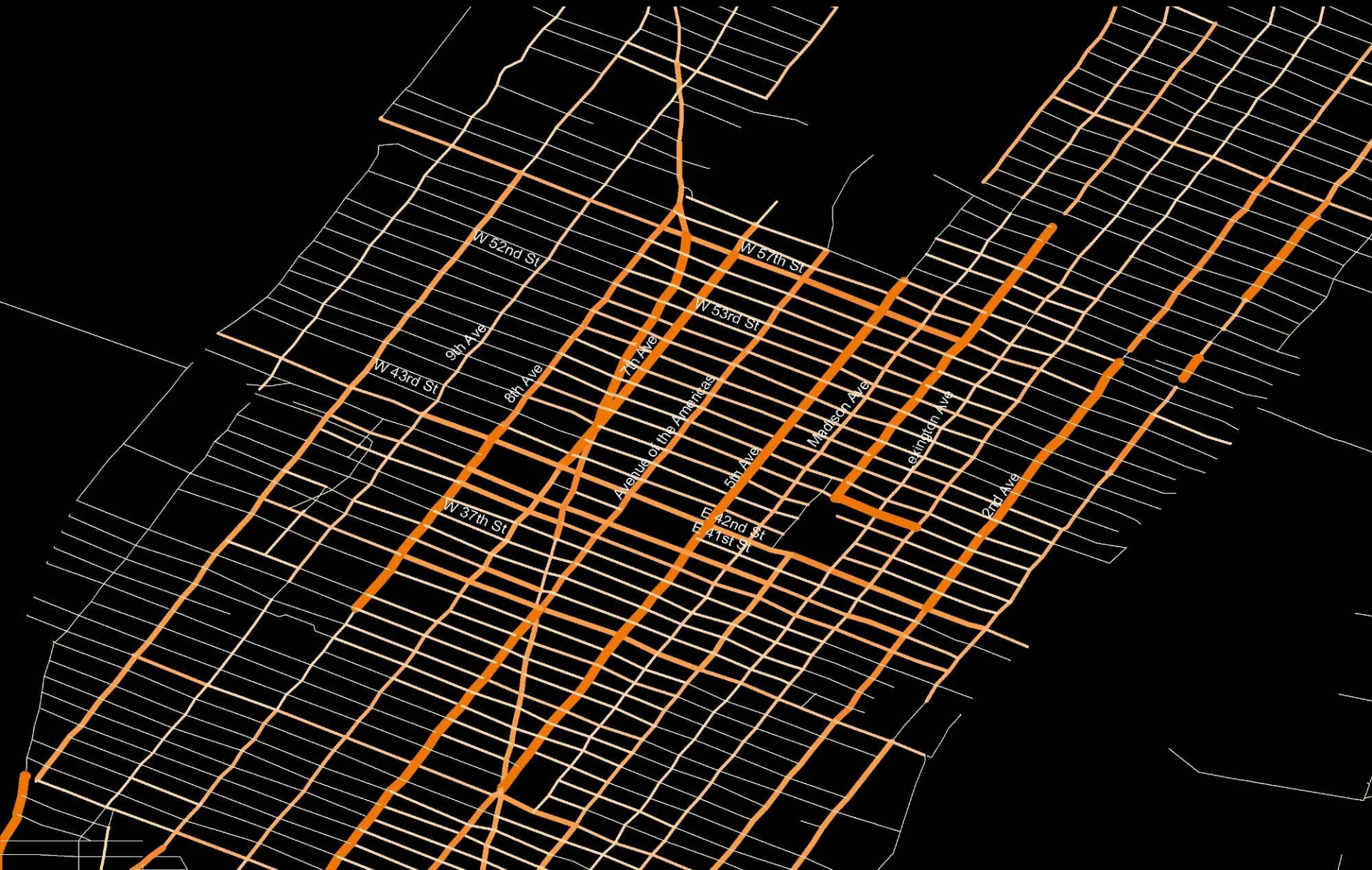
# Manhattan Axial Map

Showing Average Depth

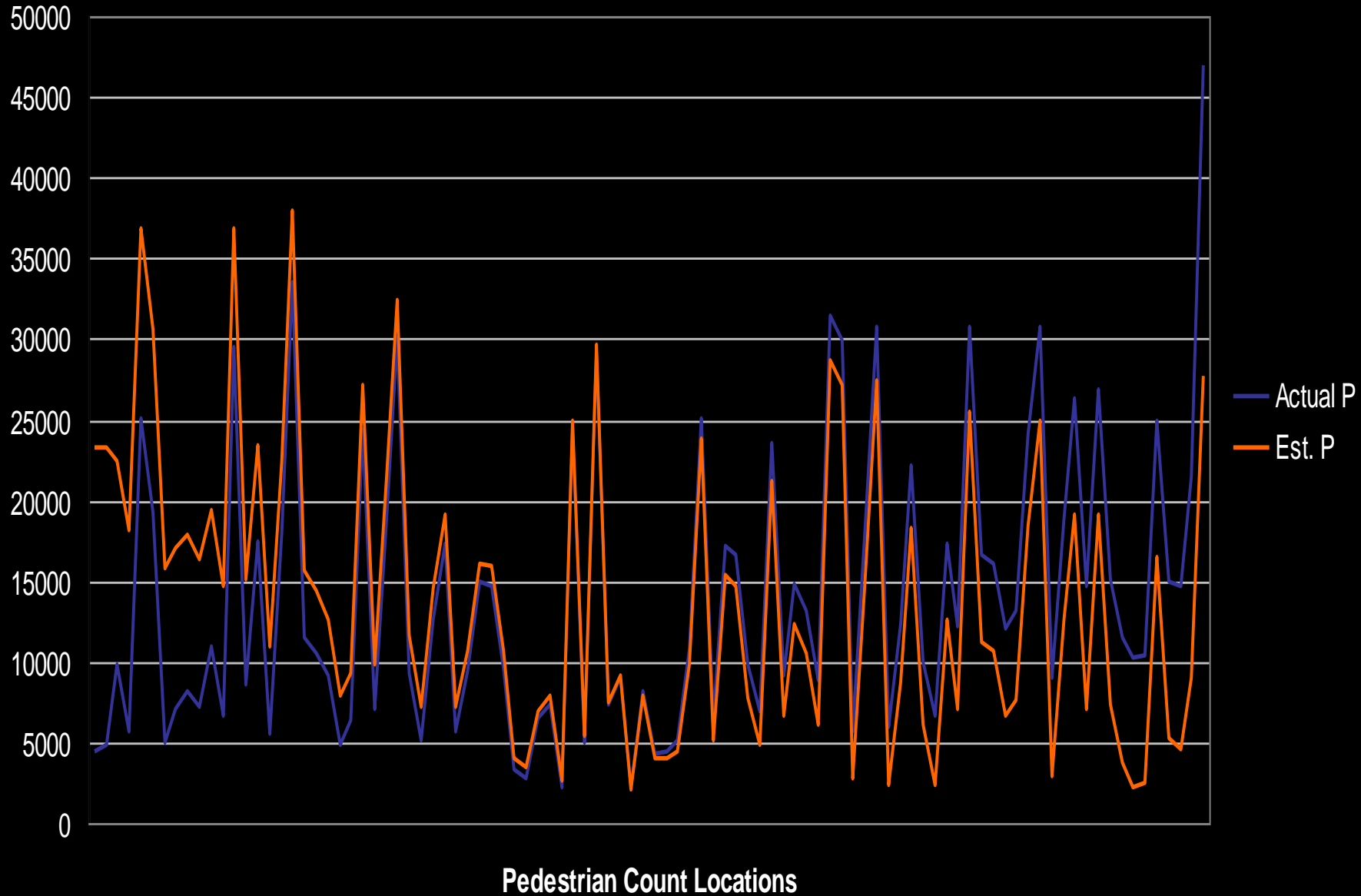


- High
- Medium/High
- Medium
- Low/Medium
- Low

# Manhattan Estimated Pedestrian Volumes



# Pedestrian Model Accuracy





**WHY** it's useful





# USES FOR PED MODEL?

## COMMERCIAL

- ✓ location analysis
- ✓ retail
- ✓ real estate
- ✓ outdoor ads
- ✓ BIAs

## PLANNING

- ✓ cheap counts
- ✓ ped LOS
- ✓ ped signals
- ✓ ped crossings
- ✓ accident rates

# LIMITATIONS

- ✓ Granularity – 1 to 5 blocks
- ✓ Anomalies – tourist areas
- ✓ Seasonality – not adjusted

**WHAT'S NEXT?**





# Pedestrian Paths Modelled Now



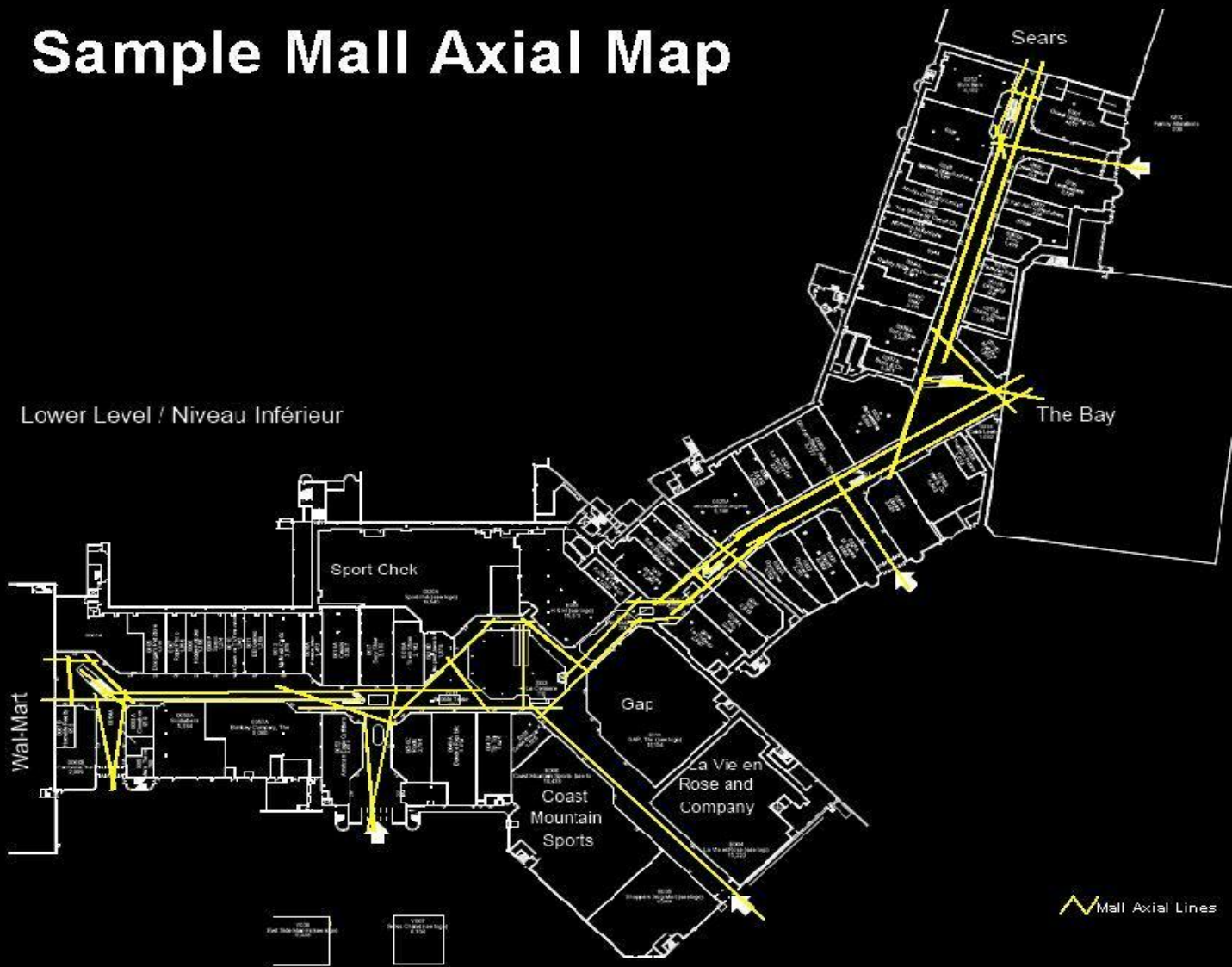


# Neighbourhood Level Detail





# Sample Mall Axial Map





**Get to know YOUR  
PEOPLE on the STREET**



“Thank you.”

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