

BACKGROUND & INTRODUCTION

WHAT HAS HAPPENED ALREADY?

2000

Community working group, made up of local residents and SFMTA staff, delivers report on potential options for addressing Lombard Street congestion.

2014

Pilot closed the Crooked Street to cars on certain weekends in 2014. This option was not widely accepted by the community due to increases in people looking for parking spots, pedestrian crowding, and cleanup issues.

2017

Transportation Authority releases study on addressing congestion and livability on the Crooked Street.

The study focused on four key areas:

- **Reservations & Pricing System for Vehicles**
- Improved Enforcement of Existing Regulations
- Engagement of the Tourism Industry as Partners in Visitor Management
- Engineering, Signage, and Wayfinding Improvements

2018

Transportation Authority begins further analyzing the Reservations & Pricing concept in partnership with Supervisor Stefani.

WHY NOT JUST CLOSE LOMBARD TO CARS?

Data from the pilot indicates that a closure would substantially increase pedestrian activity and result in additional car traffic, double parking to pick-up and drop-off, and visitors walking in the street, preventing those who live on the block from accessing their homes.

WHAT WE'RE DISCUSSING TODAY

OTHER PLANNED IMPROVEMENTS

HOW WE'LL USE YOUR FEEDBACK

We will use your feedback to develop a plan for finalizing design, implementation, and operations of a Reservations & Pricing system for vehicle traffic on the Crooked Street. The final study will:

- Identify technology and method of enforcement
- Recommended hours of operation
- Identify a potential price level
- Determine resident exemptions and rules for visitors
- Outline next steps to be taken by the City and others
- Identify authorizations required under state law

NEXT STEPS

PROGRAM ROLLOUT: Much of this is to be determined based off of community feedback, state legislation, and preferred management approach.

- The soonest a staffed approach could be implemented is approximately one year.
- The soonest an automated solution could be implemented is 1.5 years.

IDENTIFY SYSTEM MANAGER: Any system requires a managing entity to be responsible for its operation. Potential operators include a public agency, a Local Benefit District, or Business Improvement District (new or existing)

OUR GOALS

GOAL	MINIMUM RESULTS	IDEAL RESULTS
Manage automobile congestion	Time vehicle queue extends past Larkin no more than 15 min in any given hour	Vehicle queue does not extend west of Larkin
Maintain the livability of the surrounding neighborhood	Revenue beyond operating costs greater or equal to current cost of services (Parking Control Officers or PCOs, ambassadors)	Revenue beyond operating costs greater or equal to cost of expanded services such as PCOs, Police Officers, and related to manage impact of visitors on neighborhood
Manage pedestrian congestion	Less than 15 percent of pedestrians linger in crosswalks for excessive periods of time	Less than 10 percent of pedestrians linger in crosswalks for excessive periods of time
Ensure traffic safety	Pick-ups and drop-offs do not block travel lanes or sidewalks more than 15 min in any given hour	All pick-ups and drop-offs do not block travel lanes or sidewalks
Implement a financially viable solution	Revenue covers basic operations and maintenance costs of the pricing and reservations system	Revenue beyond operating costs greater or equal to cost of expanded services such as PCOs, Police Officers, and related to manage impact of visitors on neighborhood
Preserve tourism at a sustainable level	Number of visitors that allows the system to meet other minimum targets, given proposed improvements	Number of visitors that allows the system to meet other ideal targets, given proposed improvements

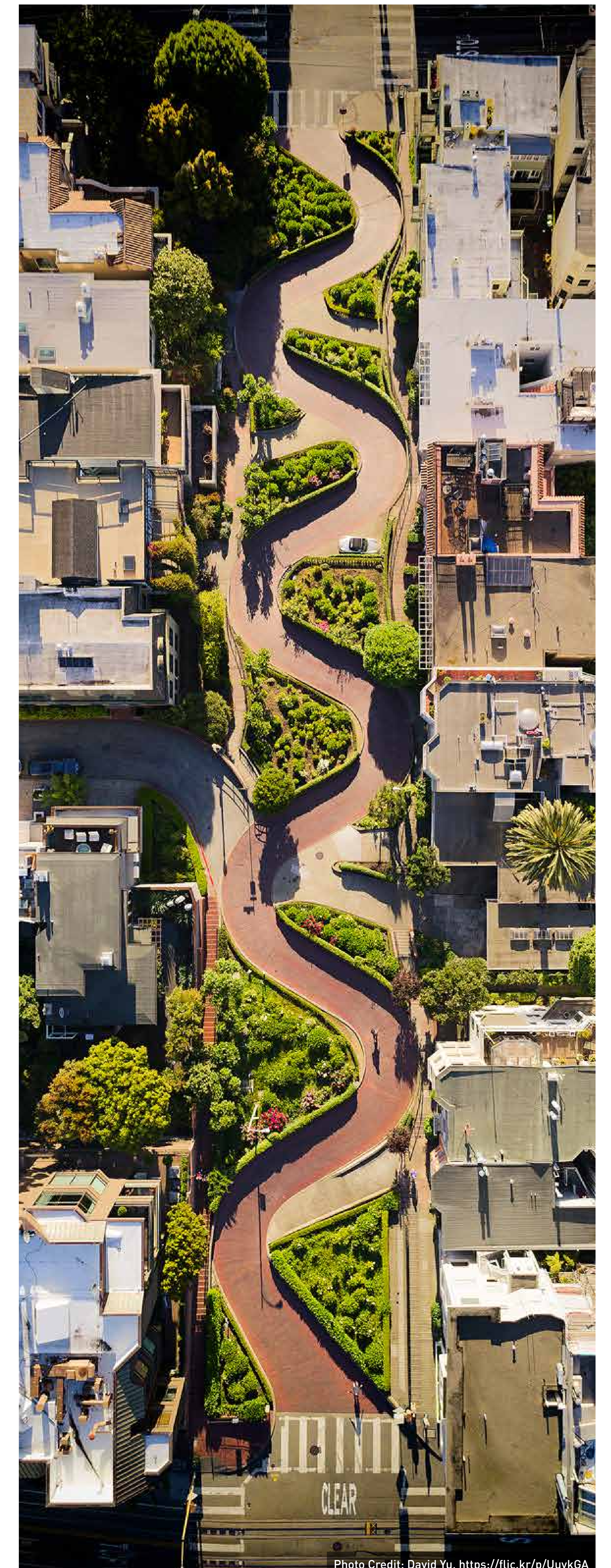
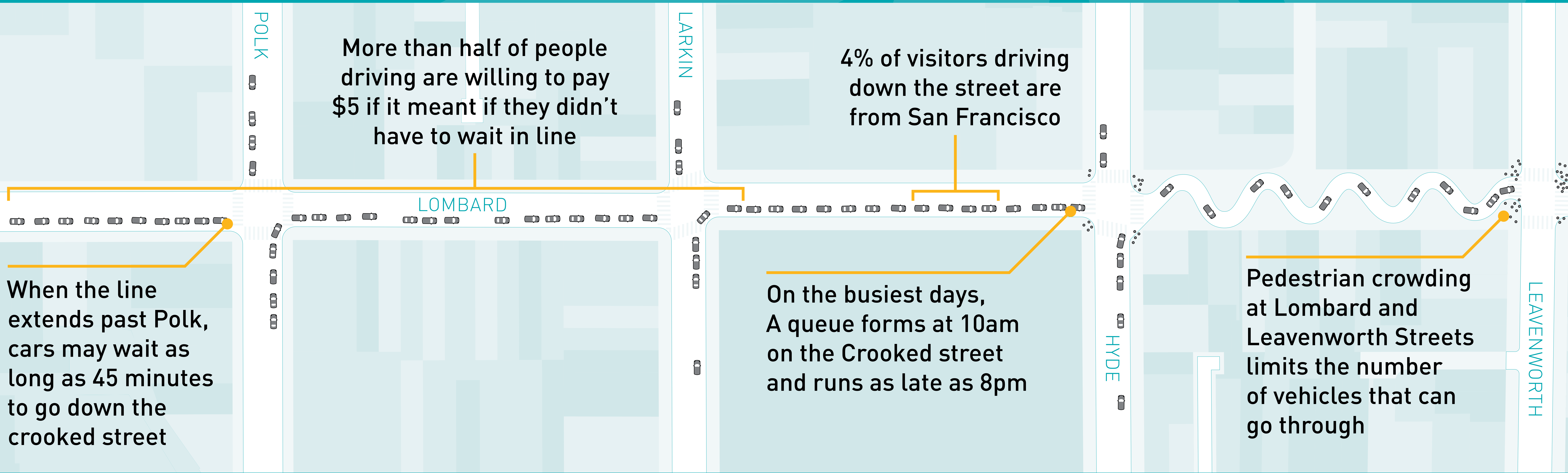


Photo Credit: David Yu, <https://iic.kr/p/UuvkGA>

LOMBARD TODAY



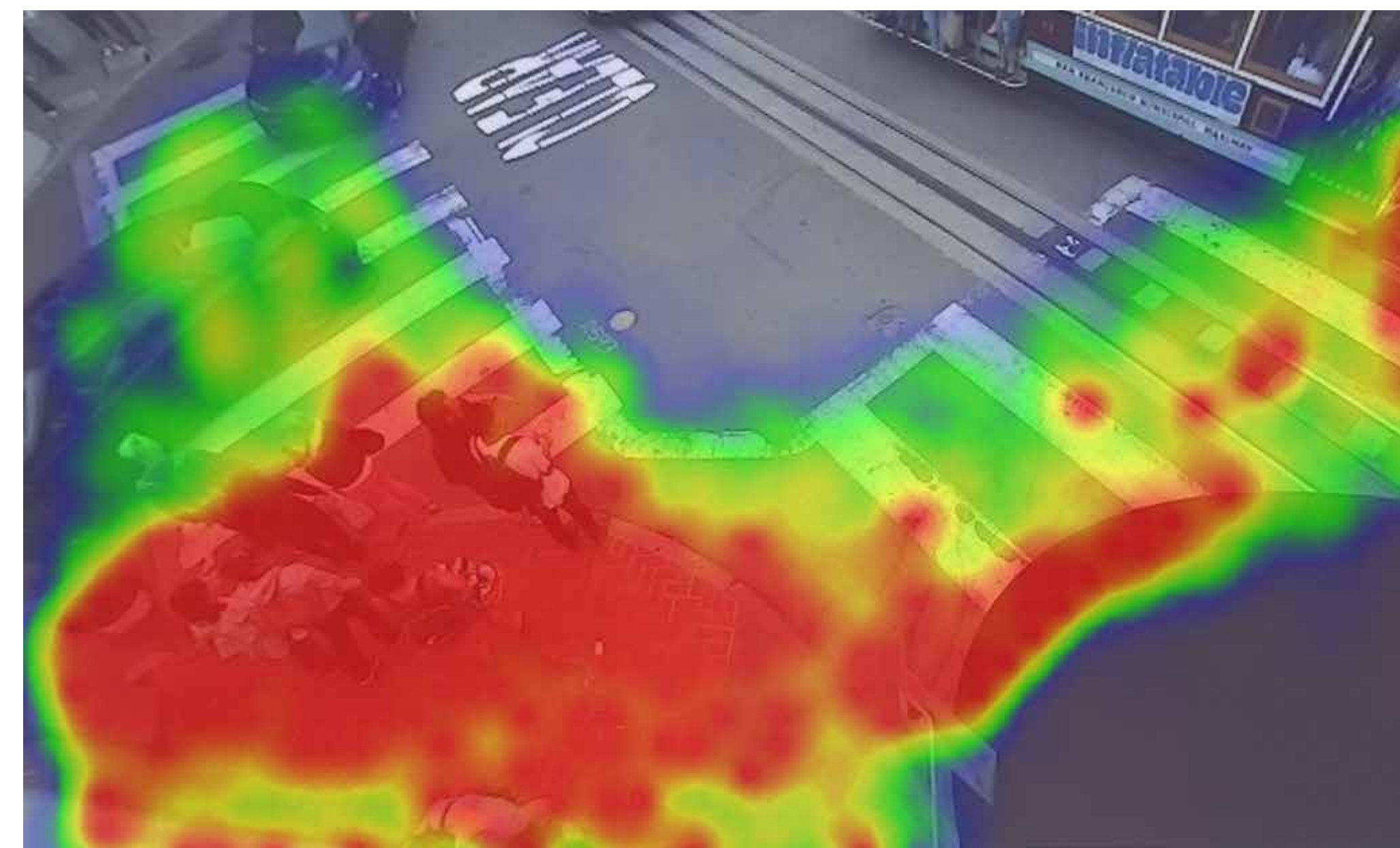
This data was collected using a variety of methods, including traditional traffic counts, commercial traffic congestion and speed data (e.g. Google traffic), and traffic and pedestrian sensors mounted at Lombard & Hyde and Lombard & Leavenworth. Additionally, the study team conducted a survey of vehicles and their occupants over two days in August to better understand visitor's willingness to make a reservation, and at what price, to drive on the Crooked Street.

KEY FINDINGS

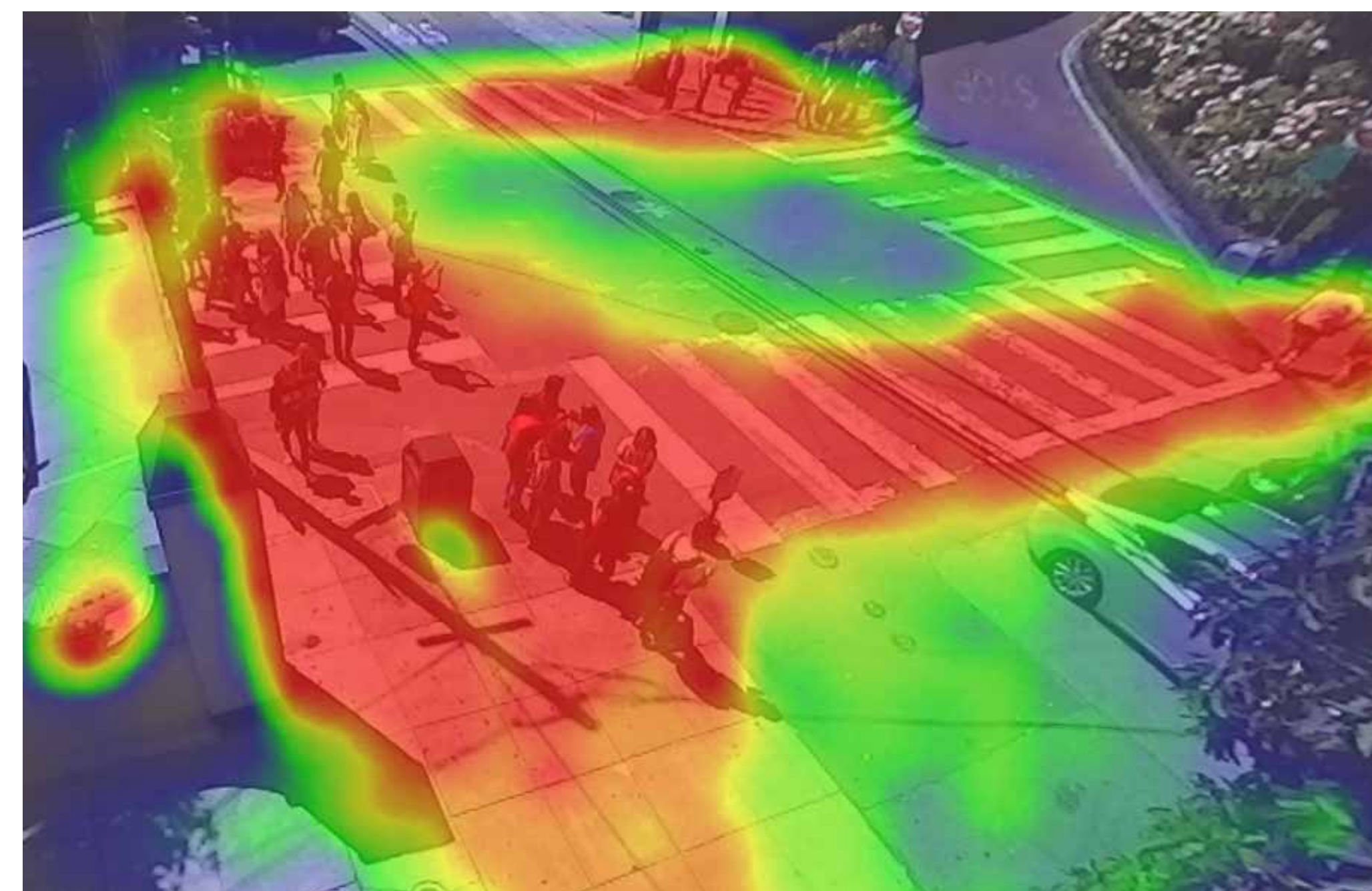
The project team identified several notable trends from the survey results:

1. As expected, the overwhelming majority (96%) of visitors to Lombard were visiting from outside San Francisco, and 75% of visitors were from beyond the Bay Area.
2. Virtually all vehicles visiting Lombard Street (99%) contained more than one person, and 61% contained more than two people.
3. Overall, nearly half (46%) of respondents stated that they would be somewhat or very likely to use a reservation system if visiting Lombard were to require it.
4. Overall, nearly 60% of respondents stated a willingness to pay at least \$5 to visit Lombard.
5. If the desired reservation time were unavailable, more than half stated they would find a different way to get to Lombard, whereas more than 10% stated they would come at a different time, and more than 30% stated they would not visit at all.

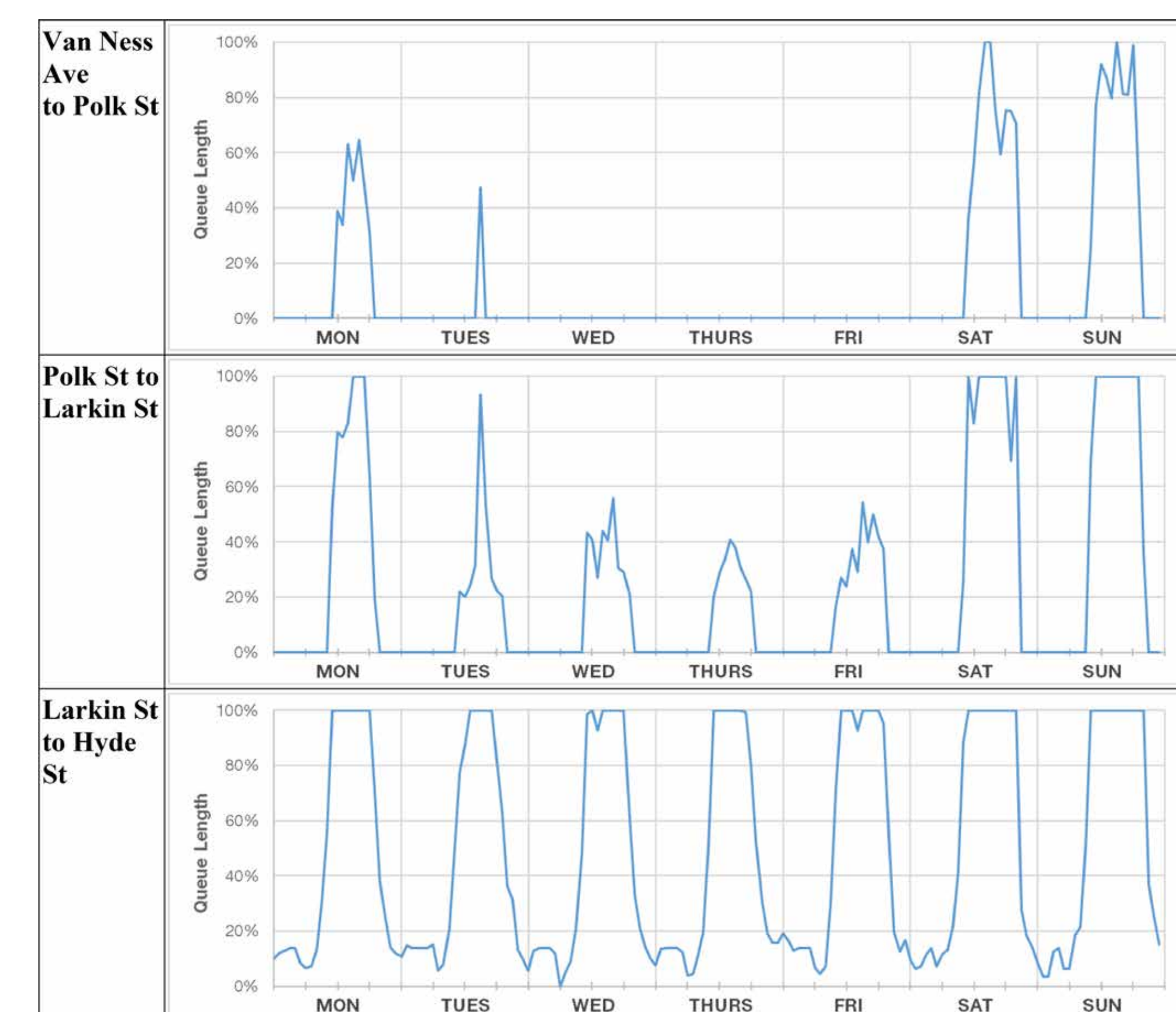
Pedestrian Activity Heat Map Lombard St & Hyde St
Tracks above represent pedestrian movements between 2 PM and 3 PM on Saturday, September 15, 2018.



Pedestrian Activity Heat Map Lombard St & Leavenworth St
Tracks above represent pedestrian movements between 2 PM and 3 PM on Saturday, September 15, 2018.



Google-Directions-API-Inferred Overall Average Queue Length
Note: Queue lengths report length of each block in queue; for reference, each block can queue approximately 16 cars along each 400-ft block.



RESERVATION & PRICING SCENARIOS

The study team has developed two potential operational scenarios alongside continuing with no operational changes as a point of comparison.

	LOMBARD TODAY Existing conditions	SCENARIO 1 (24 / 7) Easy to Understand	SCENARIO 2 (9am - 9pm) Driven by Demand
Number of Reservable Slots	Unlimited	40 per half hour slot, staggered start (~160/hour) (e.g. 1:00-1:30, 1:15-1:45, 1:30-2:00, 1:45-2:15)	
Hours/Days of Operation	None	24/7	9AM-9PM, 7 days a week
Reservation Price	N/A	\$5 all times	\$5 Mon-Fri \$10 Sat, Sun, Holidays
Crooked Street Resident Exemption	N/A	Yes	
Variations Tested	N/A	\$0 reservation cost for San Francisco residents	

HOW COULD IT WORK?

AUTOMATED ENFORCEMENT

- No on-site staff beyond Parking Control Officers (PCOs), Ambassadors, SFPD.
- Reservations made and paid for online and verified using FasTrak or license plate recognition cameras
- Non-reservation fees could be on-site (requires enabling legislation and SFPD) or via mail to registered owner.
- Could be used with either operational scenario (24/7 or 9am – 9pm).

STAFFED ENFORCEMENT

- Similar to Muir Woods, reservation would be made and paid for online, and shown via printout or mobile phone to on-site staff who would verify the reservation.
- On-site staff would work with PCOs to direct vehicles with reservations to the street and those without reservations away, likely via Larkin.
- Non-reservation fees would be minimized, and would be issued on-site (requires enabling legislation and SFPD) or via mail to registered owner.

Eligible Scenarios

Scenario 1 (24/7) or
Scenario 2 (9am – 9pm)

Scenario 2 (9am – 9pm)

Tourists

- 1 Reservation made online License plate submitted
- 2 Cameras verify license plate & reservation
- 3 Non-reservation fees issued for those without a reservation

- 1 Reservation made online
- 2 Staff on-site verify reservation via printout or license plate
- 3 PCOs direct vehicles appropriately based on reservation status

Residents

- 1 Resident vehicles pre-registered by license plate
- 2 Cameras verify license plate

- 1 Residents of 1000 and 1100 block of Lombard issued passes
- 2 Pass verified by staff

Guests

- 1 Visitor license plate captured by camera
- 2 Residents enter license plate of visitors in secure system
- 3 No fine assessed to registered visitors

- 1 Residents generate visitor pass online
- 2 Pass verified by staff

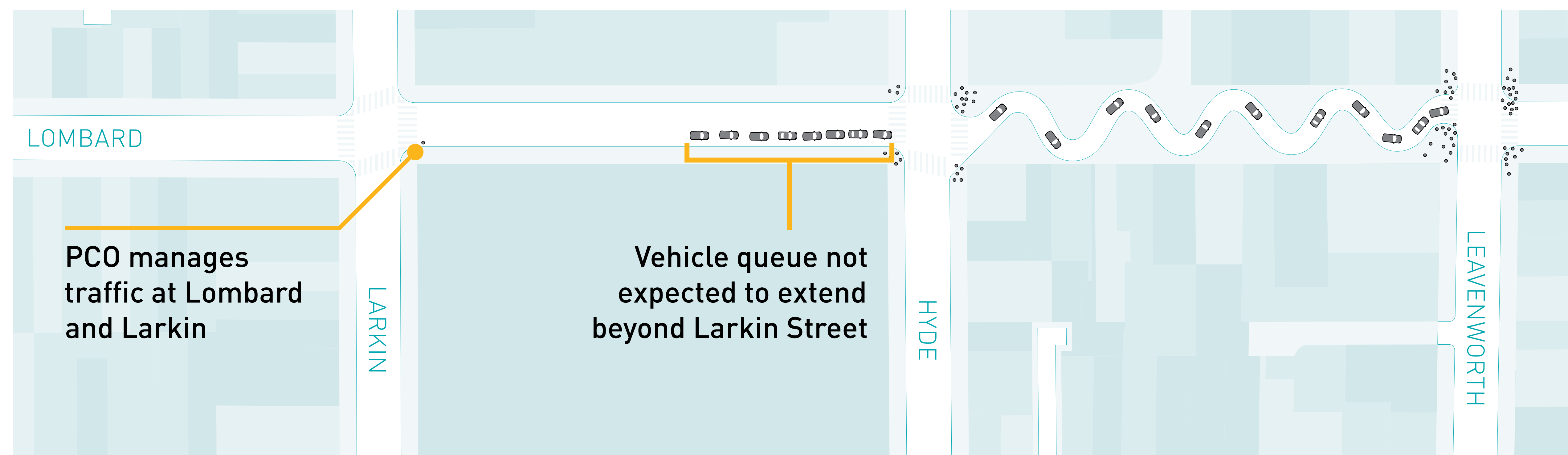
RESULTS

GOAL

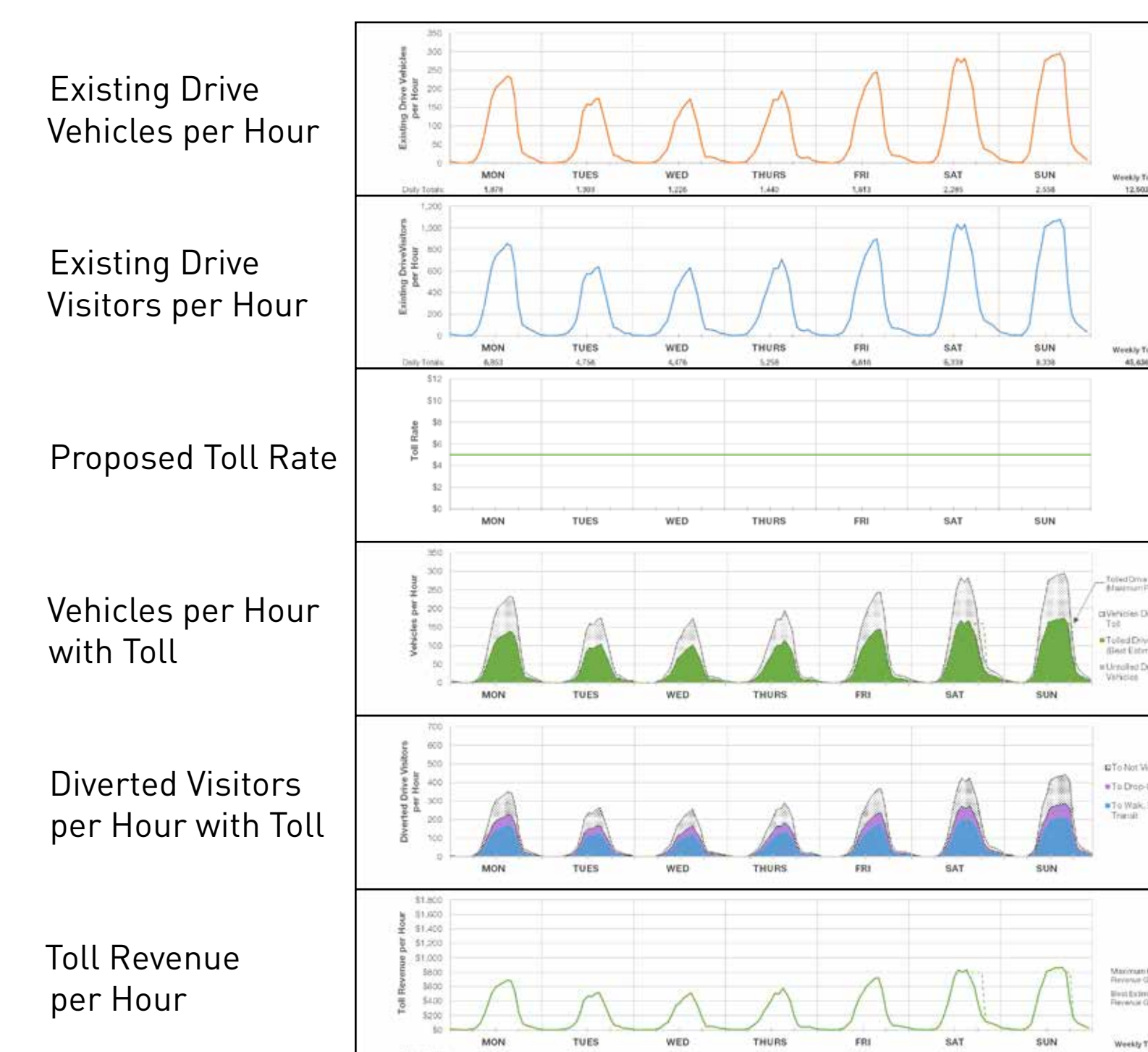
PERFORMANCE

	Existing	Scenario 1 (24/7)	Scenario 2 (9am – 9pm)
Manage automobile congestion	↓	↑	↑
Maintain the livability of the surrounding neighborhood	↓	↑	↑
Manage pedestrian congestion	↓	↓	↓
Ensure traffic safety	↓	↓	↓
Implement a financially viable solution	↓	↑	↑
Preserve tourism at a sustainable level	↓	↔	↔

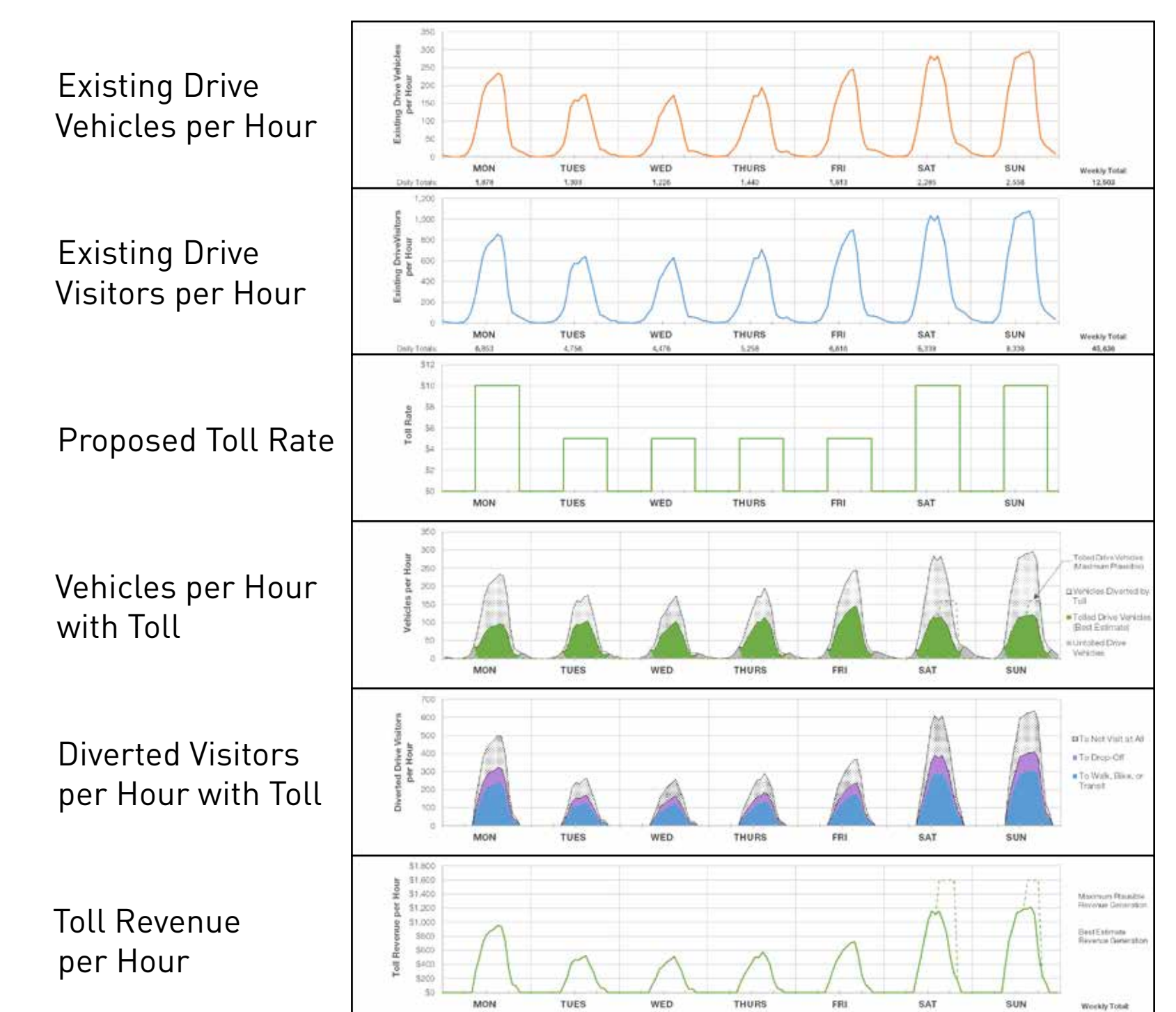
LOMBARD TOMORROW



SCENARIO 1 (24/7) PERFORMANCE



SCENARIO 2 (9AM – 9PM) PERFORMANCE



PERFORMANCE

GOAL

MANAGE AUTOMOBILE CONGESTION

MEASURED BY: Time vehicle queue extends west past Larkin St (1 block) in each hour of the week

TARGET

Minimum

Time vehicle queue extends past Larkin is no more than 15 min in any given hour

Ideal

Vehicle queue does not extend west of Larkin Street

PERFORMANCE

Existing ↓

Vehicle queue extends upstream of Larkin St at least six hours per day each day of the week.

Scenario 1 (24/7) ↑

Vehicle queue not expected to extend beyond Larkin Street, given peak (weekend afternoon) arrival flow of 175 vehicles/hr.

Scenario 2 (9am – 9pm) ↑

Vehicle queue not expected to extend beyond Larkin Street, given peak (weekend afternoon) arrival flow of 160 vehicles/hr.



GOAL

MAINTAIN THE LIVABILITY OF THE SURROUNDING NEIGHBORHOOD

MEASURED BY: Revenue generated for livability improvements

TARGET

Minimum

Revenue beyond operating costs greater or equal to current cost of services (PCOs, ambassadors)

Ideal

Revenue beyond operating costs greater or equal to cost of expanded services such as PCOs, Police Officers, and related to manage impact of visitors on neighborhood

PERFORMANCE

Existing ↓

No revenue generated.

Scenario 1 (24/7) ↑

\$35K – \$40K per week

Scenario 2 (9am – 9pm) ↑

\$40K – \$45K per week



PERFORMANCE

GOAL

MANAGE PEDESTRIAN CONGESTION

MEASURED BY: Percentage of pedestrians lingering in intersection crosswalks for excessive periods of time (i.e., crossing significantly more slowly than a typical walking speed [3 ft/s])

TARGET

Minimum

Less than 15 percent of pedestrians linger in crosswalks for excessive periods of time

Ideal

Less than 10 percent of pedestrians linger in crosswalks for excessive periods of time

PERFORMANCE

Existing ↓

At Lombard St & Hyde St, only approximately 15% of pedestrians occupy the crosswalks linger in the crosswalks.

At Lombard St & Leavenworth St, over 45% of pedestrians linger in the crosswalk.

Scenario 1 (24/7) ↓

During a peak hour (Saturday afternoon), 290 visitors/hour are expected to visit as a pedestrian instead of drive.

With increased volumes of pedestrians overall, crowding of pedestrian space is expected to get worse.

Scenario 2 (9am – 9pm) ↓

During a peak hour (Saturday afternoon), 410 visitors/hour are expected to visit as a pedestrian instead of drive.

With increased volumes of pedestrians overall, crowding of pedestrian space is expected to get worse.

HOW COULD THESE IMPACTS BE ADDRESSED?

The 2017 *Managing Access to the Crooked Street Study* included recommendations to increase pedestrian space at Lombard/Hyde and Lombard/Leavenworth to address crowding. Advancing these recommendations could reduce crowding in the crosswalk and make it easier for PCO's to clear space for vehicles when necessary.



GOAL

ENSURE TRAFFIC SAFETY

MEASURED BY: Extent to which pick-ups/drop-offs block cable cars, pedestrians/crosswalks, or automobiles

TARGET

Minimum

Pick-ups and drop-offs do not block travel lanes or sidewalks more than 15 min in any given hour

Ideal

All pick-ups and drop-offs do not block travel lanes or sidewalks

PERFORMANCE

Existing ↓

Pick-up / drop-off activity frequently obstructs pedestrians, cable car, and other car traffic.

Scenario 1 (24/7) ↓

During weekend afternoon peak hour, 70 visitors/hour are projected to get dropped off instead of drive.

Obstructing pick-up / drop-off activity expected to increase accordingly.

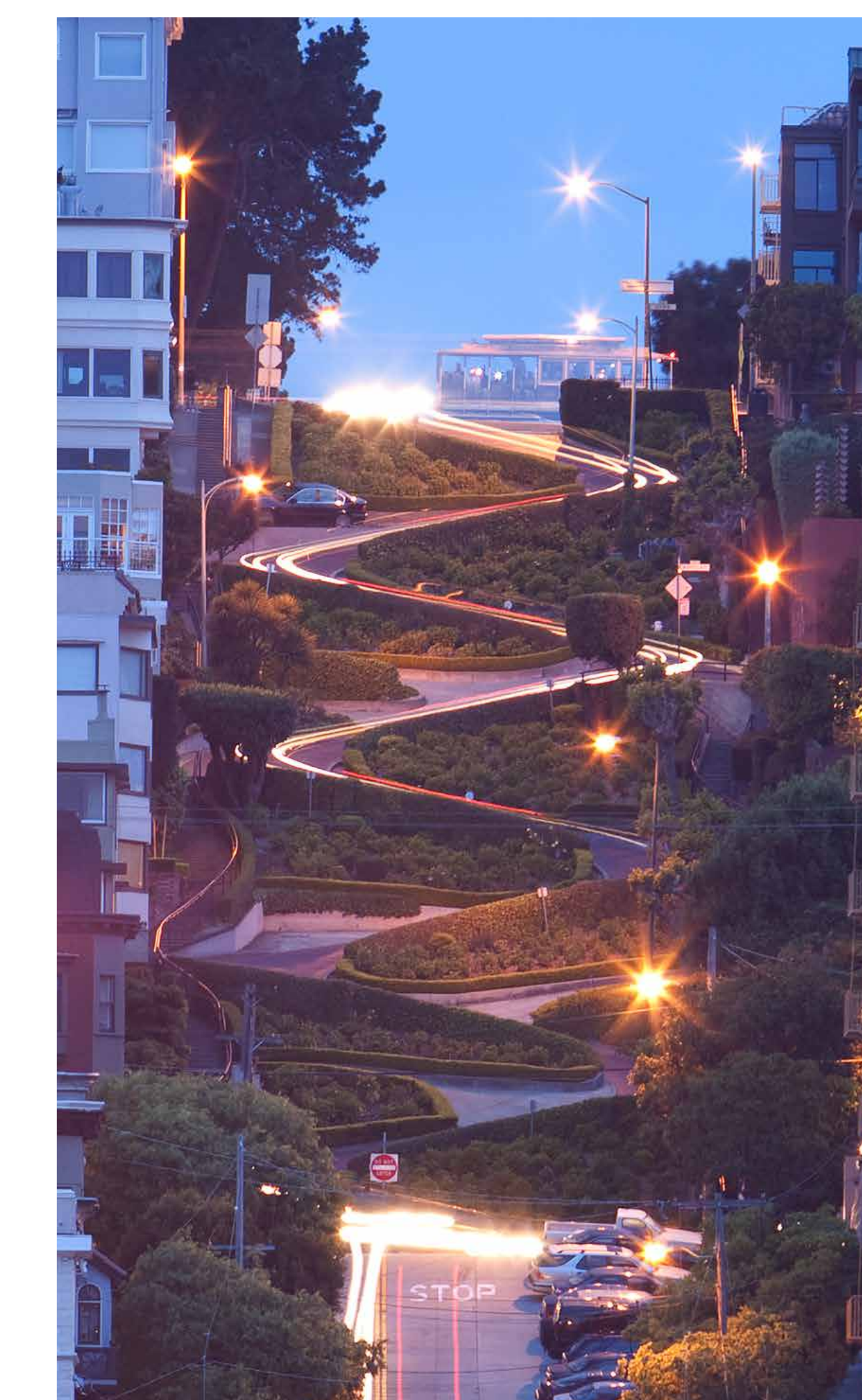
Scenario 2 (9am – 9pm) ↓

During weekend afternoon peak hour, 100 visitors/hour are projected to get dropped off instead of drive.

Obstructing pick-up / drop-off activity expected to increase accordingly.

HOW COULD THESE IMPACTS BE ADDRESSED?

The 2017 *Managing Access to the Crooked Street Study* explored (but ultimately did not recommend based on community feedback) designated loading and unloading zones around the Crooked Street. Continuing to explore potential options for pick-up and drop-off areas, as well as changes to parking restrictions, could help address loading and unloading activities.



PERFORMANCE

GOAL

IMPLEMENT A FINANCIALLY VIABLE SOLUTION

MEASURED BY: Revenue generated to cover operating costs

TARGET

Minimum

Revenue covers basic operations and maintenance costs of the pricing and reservations system

Ideal

Revenue beyond operating costs greater or equal to cost of expanded services such as PCOs, Police Officers, and related to manage impact of visitors on neighborhood

PERFORMANCE

Existing ↓

No revenue generated.

Scenario 1 (24/7) ↑

\$35K – \$40K per week

Scenario 2 (9am – 9pm) ↑

\$40K – \$45K per week



GOAL

PRESERVE TOURISM AT A SUSTAINABLE LEVEL

MEASURED BY: Number of visitors per day

TARGET

Minimum

Number of visitors that allows the system to meet other minimum targets, given proposed improvements

Ideal

Number of visitors that allows the system to meet other ideal targets, given proposed improvements

PERFORMANCE

Existing ↔

21,000 people/day:
6,500/day by car,
14,500/day by foot

Scenario 1 (24/7) ↔

20,000 people/day, -5%:
4,000/day by car,
16,000/day by foot.

Scenario 2 (9am – 9pm) ↔

20,000 people/day, -5%:
3,700/day by car,
16,300/day by foot.

