

# View from City Hall

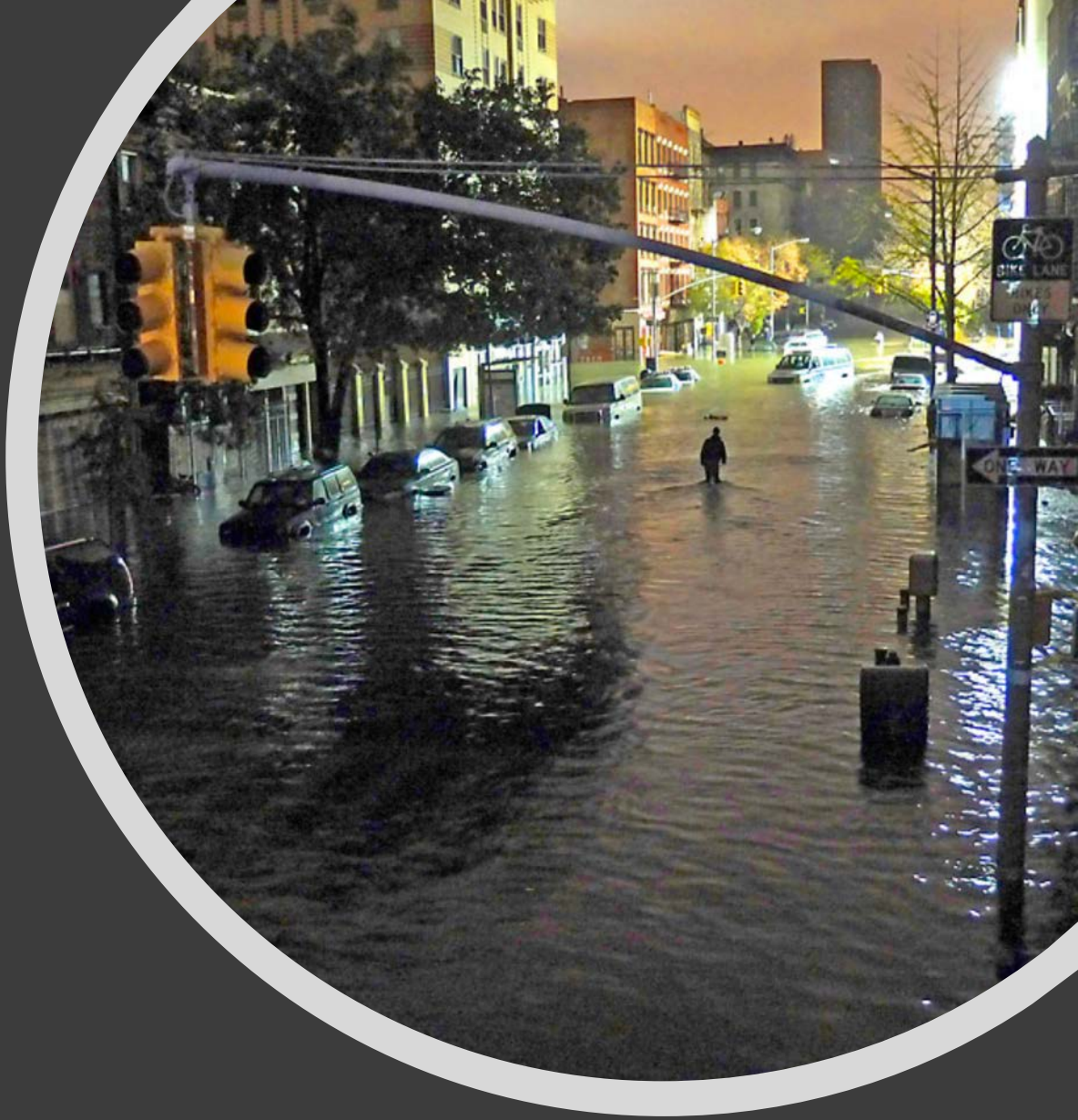
## Infrastructure, Data and Engagement

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# A City and A Natural Disaster

- In the next decades, Austin will have a consolidated data and communications infrastructure.
- We are going to imagine a natural disaster :
  - A series of flash floods inundate parts of Austin
  - Neighborhoods will have fully, partially or non-functioning infrastructure
- We tell this story in terms of the infrastructure, its data, and the critical decisions before and after the disaster to engage the community so that they are safe and trusting of their government's response.



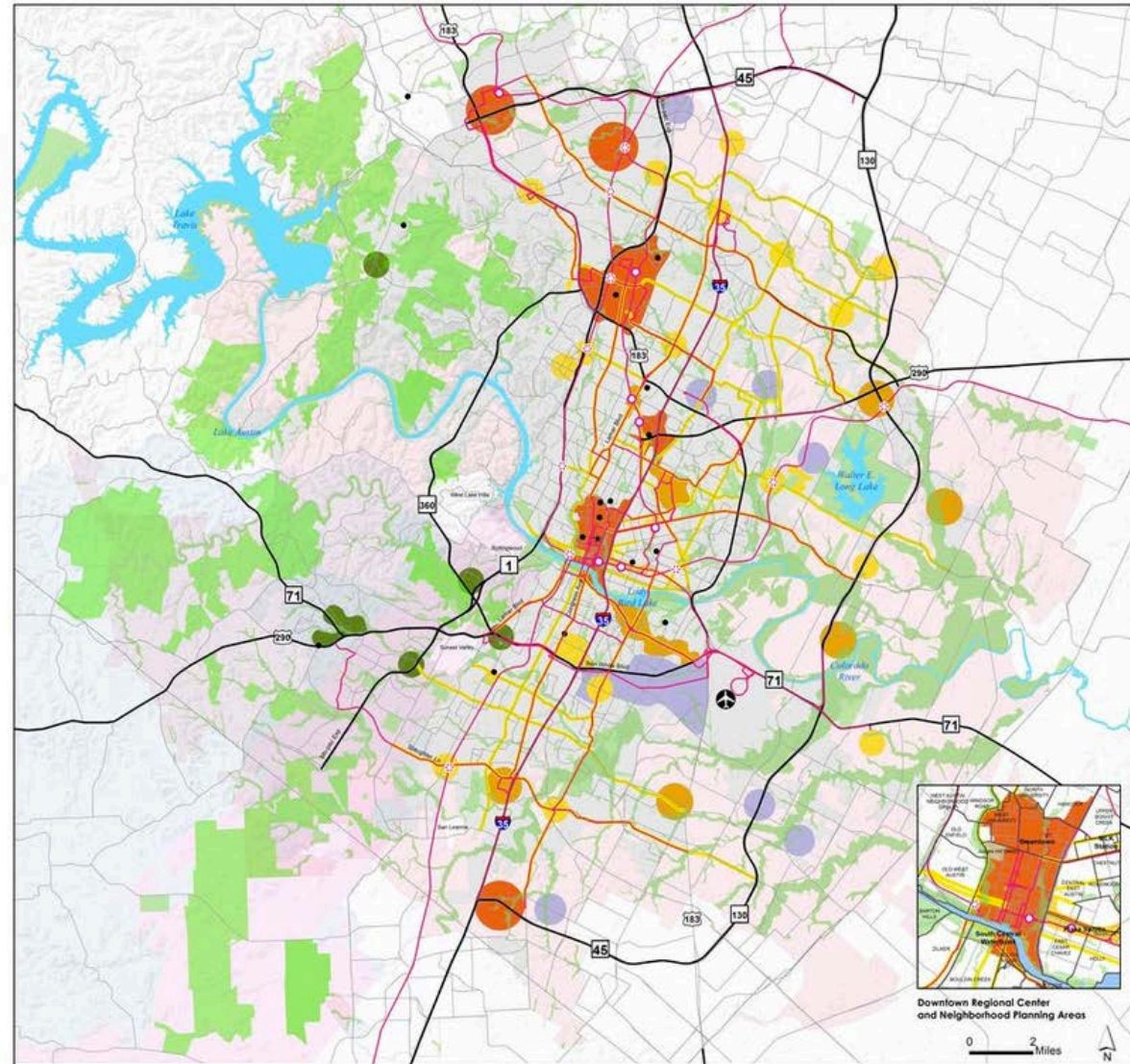
# Austin Infrastructure for Autonomy and Advanced Services

- Cities have had infrastructure for energy, transportation and water.
- We are exploring dedicated new infrastructure for advance data services.
- For advanced services like autonomy, drone management, energy delivery, public safety, commercial and the arts.



# Using data infrastructure to support our communities

- Successful engagement with communities requires their trust.
- Trust and communication comes in many scopes:
  - Neighbor to neighbor
  - Neighborhood Center
  - Activity Corridors
  - Town or Planning Zone
  - Regional
  - City Wide
  - Metropolitan
- A city's data is used to understand these scopes of trust.



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## Growth Concept Map

### Legend

- Regional Center
- Town Center
- Neighborhood Center
- Activity Corridor
- Activity Centers for Redevelopment in Sensitive Environmental Areas
- Job Center
- Current Open Space
- Future Open Space
- Barton Springs Contributing Zone
- Barton Springs Recharge Zone
- College/University

### Transportation

- High Capacity Transit Stop
- Proposed High Capacity Transit Stop
- High Capacity Transit
- Highway
- Other Streets

### Boundaries

- City Limits
- ETJ
- County Boundaries

The Growth Concept Map applies the Imagine Austin vision statement to the city's physical development. Generated through a public scenario-building process, it defines how we plan to accommodate new residents, jobs, mixed use areas, open space, and transportation infrastructure over the next 30 years.

Map Disclaimers: A comprehensive plan shall not constitute zoning regulations or establish zoning district boundaries. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by the Planning and Zoning Department for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

Adopted June 15, 2012

# Operational Data

- Locations of
  - Health services
  - Traffic cameras
  - Trails
  - Fire stations (not fire hydrants)
  - Crime
  - Scooter Use
  - And more
- Service calls
  - Infrastructure repairs
  - Uncollected trash
  - Dangerous animals
  - Fallen trees

The screenshot displays the data.austintexas.gov website interface. At the top, the logo reads "data.austintexas.gov" with the tagline "the official City of Austin open data portal". A search bar at the top right contains the text "neighborhood". Below the search bar, a navigation menu includes "Data", "Suggest a dataset", "Public Information Request", "Terms of Use", "Help", "Forum", and a "Sign In" button.

The main content area shows search results for "neighborhood". A sidebar on the left lists categories: "Budget and Finance", "Building and Development", "City Government", "City Infrastructure", "Environment", and "Show All...". Below this, "View Types" includes "Calendars", "Charts", "Data Lens pages", and "Datasets".

The search results are filtered to show 243 results, sorted by "Most Relevant". The first result is "Montopolis Neighborhood Center" under "Health and Community Services", updated on July 20, 2018. A second, larger overlay shows 72 results filtered by the tag "transportation", also sorted by "Most Relevant".

The "transportation" filtered results include:

- Real-Time Traffic Incident Reports** (Dataset, Transportation and Mobility): Updated November 30, 2020, 221,876 views. Tags: transportation, safety, roads, pedestrians.
- Traffic Cameras** (Dataset, Transportation and Mobility): Updated November 30, 2020, 28,821 views. Tags: mobility, cameras, traffic, transportation.
- Urban Trails** (Map, Locations and Maps): Updated January 6, 2020.

# Policy Maker Data

## City of Austin

### Strategic Performance Dashboard



**The Purpose of Our Strategic Plan:**

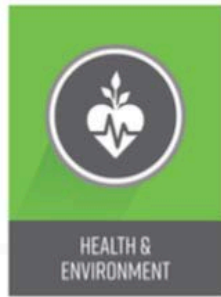
Strategic Direction 2023 is inspired by the Imagine Austin Comprehensive Plan. As the City focuses on improving quality of life in the Austin community, Strategic Direction 2023 guides the coming years and outlines imperatives to advance equitable outcomes across Austin.

Visit the public-facing site for links to our full plan and more.  
[Learn More](#)

Austin has six strategic outcomes and publishes data that reports on whether and how well it is meeting them.

Public dashboards like this categorize data in terms of the priorities of a city's policy makers.

Select an Outcome to review related indicators & measures



## Other Data Sources: Private Foundation Data

Anonymized private sector data about community understanding:

- Where residents go for services in their neighborhood.
- Share of spending going to food, transportation, housing, etc.
- When coupled with city data, may be useful in understanding economic and stress profiles of a city's different communities.

The screenshot shows the City Possible website interface. At the top left is the 'citypossible' logo with 'Powered by Mastercard' underneath. To the right are icons for home, globe, a person, a lightbulb, a bar chart, and a hand. Below the navigation is a breadcrumb trail: 'THE CITY POSSIBLE FRAMEWORK'. A 'TABLE OF CONTENTS' sidebar on the left lists: 'Welcome to City Possible', 'Urban Challenges' (highlighted with a teal circle), 'A New Model', and 'The Framework' (which includes 'The Global Network', 'Co-Development', and 'Solutions Library'). Below the table of contents is a 'The Global Network Map' button. The main content area features a large title: 'Driving inclusive and sustainable economic growth'. Below the title is a paragraph: 'Cities around the world are working to serve millions of people, communities and businesses in the face of the health, safety and economic risks presented by the recent pandemic.' This is followed by the sub-header: 'They face many of the same challenges.' Below this are four circular cards, each with an icon and a title: 1. A house icon above a photo of a family, titled 'Barriers to resident engagement'. 2. A network icon above a teal circle with text: 'Some cities struggle to make informed program and policy decisions with local data insights.' 3. A bus icon above a photo of a man on a phone, titled 'Siloed mobility infrastructure'. 4. A brain icon above a sunset cityscape, titled 'Limited resources'.

# Technical characteristics of city data in the near future

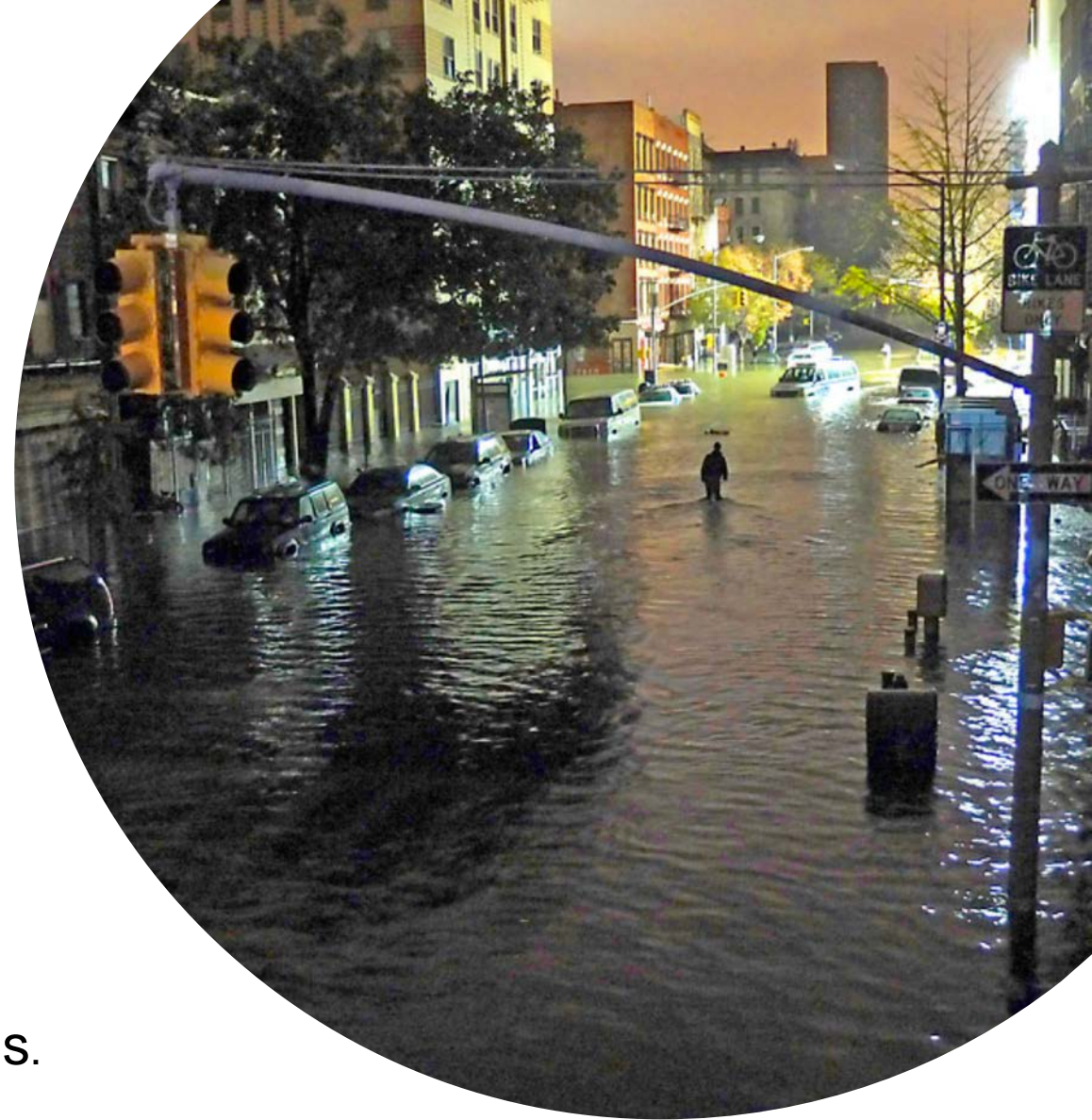
- Realtime
- Autonomous
- Environmental micro-climate
- Physically precise
- Integrated from multiple sources
- Captured along side (but separate from) commercial service data
- AI and computation will be performed at the edge.



# A natural disaster: a city's response

- Flash flooding has inundated parts of Austin
- Neighborhoods are impacted unevenly with fully, partially or mostly non-functioning infrastructure.
- There will be three phases:
  1. Emergency Response, including activating the infrastructure
  2. Stabilization and Cleanup
  3. Renewal and recovery

Success requires the trust we have built and maintain with our residents and their organizations.





# Planning

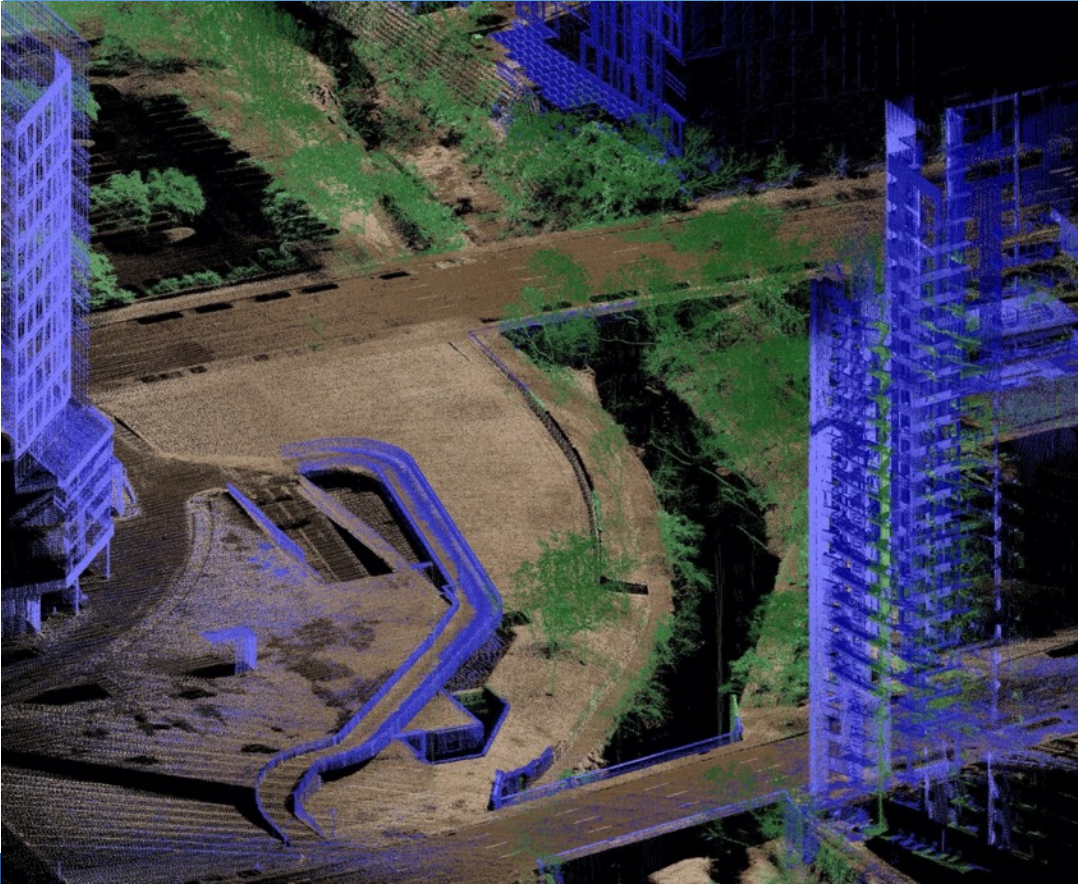
- Identify trusted organizations
- Engagement plan
- How to use working infrastructure
- How to use broken infrastructure

# Emergency Response



1. Use infrastructure to dispatch responders in targeted, accurate and transparent ways.
2. Use autonomous drones and other vehicles for search and rescue.
3. Engage with trusted community organizations based upon pre-crisis plan.
4. Tell residents where and how to access help.
5. Make data and curated information available to residents so they can make decisions.
6. Install pre-built applications to be run by compute-at-the-edge devices on the infrastructure.

# Stabilization and Cleanup



LIDAR Image from Watershed Dept, City of Austin

- Use the data infrastructure to customize cleanup communications and services while providing a common narrative to residents.
- Autonomous drones and other vehicles for precise damage assessment and service delivery.
- Infrastructure sensors for real time environmental data with block-by-block precision.
- Customized public outreach, engagement, and messaging.

# Recovery and Renewal



## Building and Repairing

- Grocery Stores
- Roads
- Community Centers

## Creating Opportunity

- Workforce Development
- Education
- Increased Community Connection

# Conclusions

- Understanding the policy-maker goals (and the data captured around it) can define what success might look like for the community.
- How infrastructure is used can help customize response to an event.
- There is no technology that can replace in-person communication to understand context and build trust.