Transit's Reach:

First Mile / Last Mile and Local Circulation

Common Aspects

▶ **Shared Rides** (to provide more rides within budget)

▶ **App-Based** (with a call-center backup capability)

▶ **Automated Ride Matching & Scheduling** (for efficient scheduling)

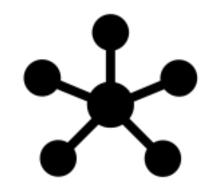▶ **Accessible** (possibly with experienced accessible provider partners)
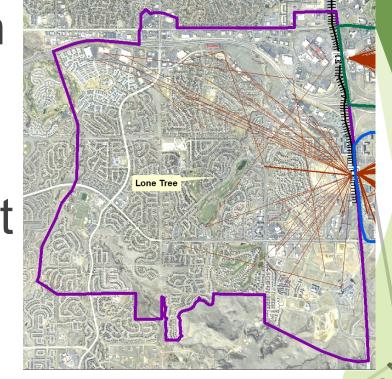
Common Focus
(a Transit Hub)

Alternative Approaches 1

▶ **GeoFenced** – Rides only provided within a zone, with defined boundaries

-Versus-

▶ **Spontaneous** – Rides must originate within a zone, but can go to any destination in the metro area

-or- **Fixed Route/Fixed Stop or Hail-a-Ride** – operated with smaller buses

Lone Tree

Alternative Approaches 2

▶ **Curb-to-Curb** (Origin-Destination)

-Versus-

▶ **Stop-to-Stop** (Walk to/from a nearby common meeting place)

Alternative Approaches 3

- **Many to One** – Rides only provided to/from a Common Destination (e.g. a Transit Hub)

- **Many to Many** – Rides can connect any two addresses within the zone.

- **Spontaneous** – Rides must originate within a zone, but can go to any destination in the metro area or just within the zone.

- **Many to Few** – Rides only provided to 2 or 3 destinations within the zone.

New Marin Transit on-demand service debuts

Tampa's HART offers suburban connections

SmaRT Ride: Sacramento Regional Transit's New Way to Get Around Citrus Heights, Antelope and Orangevale

Riders can book a ride with VIA anywhere within the City of West Sacramento for $3.50, stopping near homes and destinations.

Contracting Model 1: Ride Pooling

▶ Contractor takes ride requests and pools rides as feasible within on-time performance targets.

▶ Examples: **UberPool** & **LyftLine**

▶ Rides may be shared with non-sponsored riders.

▶ Data generally owned by the Contractor.

▶ Reporting dependent upon the Contractor.

▶ No Cash Fares

Contracting Model 2: Software as a Service (SaaS)

▶ Contractor just provides software, software support & reporting capability.

▶ Transit system or another contractor owns and operates the vehicles, which may take cash fares.

▶ Data is owned by the sponsoring jurisdiction or transit system.

▶ Reports are generated by the sponsoring jurisdiction or transit system.

Software as a Service (SaaS) Providers for Demand-Response

include

▶ **DemandTrans Solutions -** http://demandtrans.com/dynamicmobilityservice/

▶ **TransLoc -** https://transloc.com/microtransit-ondemand-software/

▶ **Via -** https://platform.ridewithvia.com/

Contracting Model 3: Turn-Key

- All the features of SaaS (contracting model 2)

- SaaS contractor also provides directly or through subcontract
  - Vehicles
  - Drivers
  - Operations Management
  - Data & Reporting

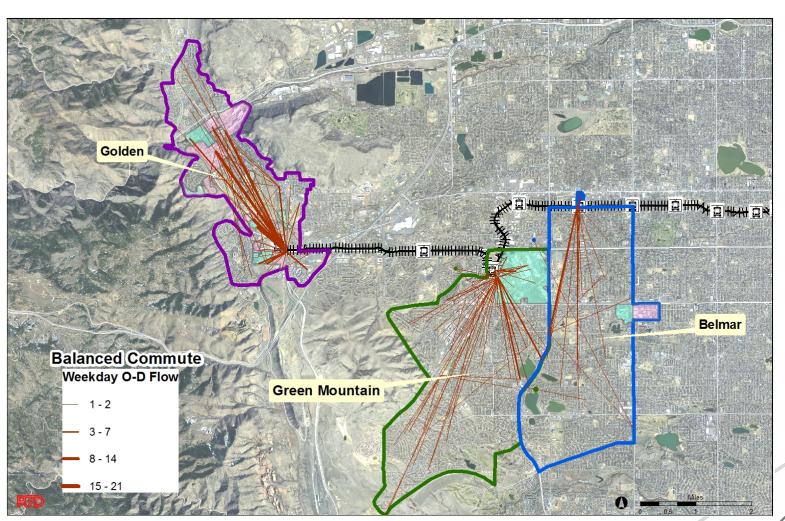- Data may be owned by the jurisdiction, if required by the contract.
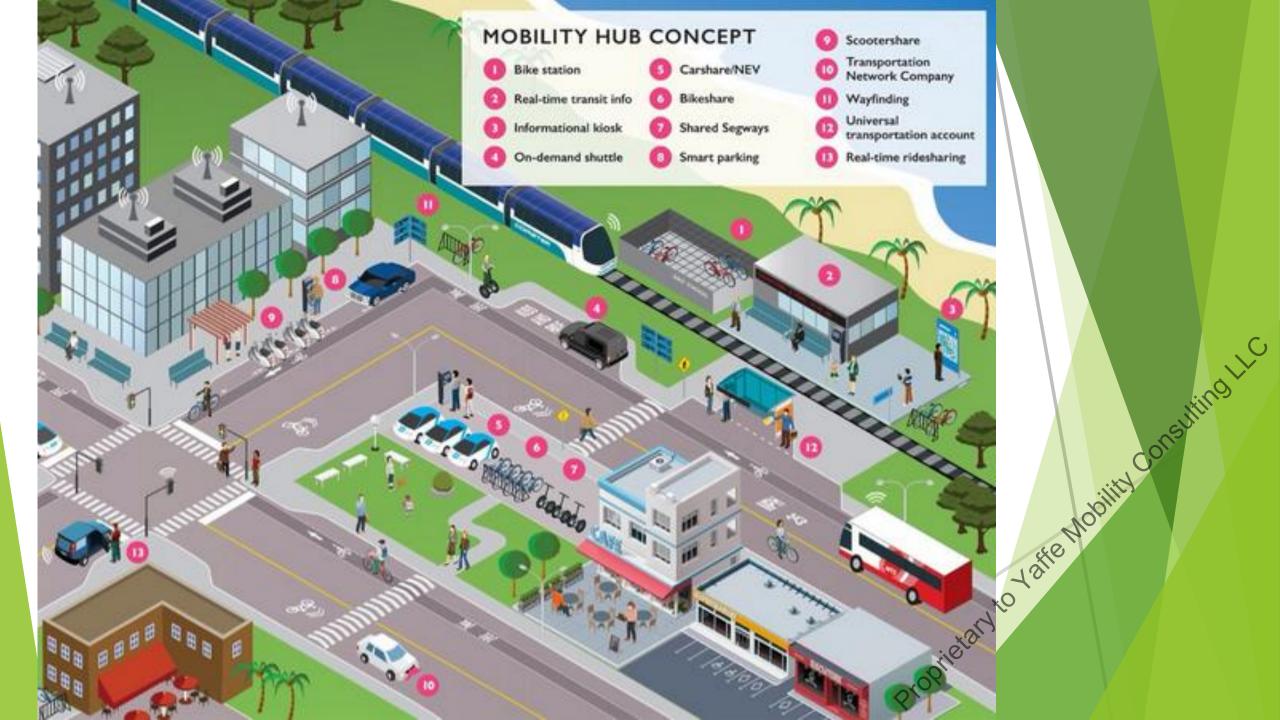
Turn-Key Examples

▶ TransLoc OnDemand, using Ford Transit vans - https://transloc.com/microtransit-ondemand-software/

  ▶ Sacramento CA suburbs of Citrus Heights, Antelope, Orangevale and Folsom

▶ Via Transportation – www.ridewithvia.com using Mercedes Metris Passenger Vans

  ▶ Arlington, TX

  ▶ West Sacramento, CA

Service Model 1: Feeder to a Transit Hub

MOBILITY HUB CONCEPT

1. Bike station
2. Real-time transit info
3. Informational kiosk
4. On-demand shuttle
5. Carshare/NEV
6. Bikeshare
7. Shared Segways
8. Smart parking
9. Scootershare
10. Transportation Network Company
11. Wayfinding
12. Universal transportation account
13. Real-time ridesharing

Planning Considerations

► **Population Density**

► **Employment Density**

► **Demographics**

► **Travel Patterns** (from a metro-wide household travel survey, cell phone tracking data and other sources)

► **Spatial Connectivity** (both the street network and internal pathways)

Inclusion & Civil Rights 1

► Title VI of the 1964 Civil Rights Act: Services funded by the public must be accessible to the public !

  ► Services must be accessible regardless of race, color, national origin,

  ► This has been extended to include income and English Proficiency

  ► We should assume eventual extension to include those without access to technology.

Inclusion & Civil Rights 2

► **The Americans with Disabilities Act is also a civil rights law**

  ► Older Americans & people with disabilities also work, shop, go to school and participate in community life.

  ► Partnerships with call centers and transportation vendors experienced in serving people with disabilities can meet the need.

Key Measures of Success

▶ Boardings per Vehicle Hour

▶ Time Elapsed Between Ride Booking & Vehicle Arrival for

   ▶ Ambulatory riders

   ▶ Wheelchair or Scooter-users

▶ Subsidy per Ride

▶ # of Unduplicated Riders

▶ Average Frequency of Use for

   ▶ Ambulatory riders

   ▶ Wheelchair or Scooter-users

Sustainability

▶ **Boardings per Vehicle Hour** – To boost the number of rides provided within budget, rides must be grouped. Allowing only a few destinations leads to more grouped rides.

▶ **Subsidy per Ride** – Minimization techniques include:

  ▶ Offering a flat fare over a time period instead of per ride.

  ▶ Capping the subsidy per ride over the fare required to board.

  ▶ Partnering with the destinations (the grocery store or hospital) to cover part of the subsidy and part of the fare.

▶ **# of Unduplicated Riders & Average Frequency of Use**

  ▶ Patronage builds political support

Fares & Fairness

- Collecting and accounting for cash fares is cost-prohibitive, except for taxi vendors.
  - Taxi ordinances must be revised to allow shared-ride for public use.
- Integration with SmarTrip is not possible at this time.
- Drawing down on credit card accounts doesn't serve the unbanked or visitors.

Fare Payment Trends

▶ One Platform for both information & fare payment
  ▶ Multimodal (bus, rail, bike – how about Amtrak & Greyhound?)
  ▶ On-Line info is now more important than print.

▶ Payment by:
  ▶ Mobile Phone
  ▶ QR-code paper tickets printed at stores & kiosks
  ▶ Designated credit card
  ▶ Draw-down Accounts similar to EZ Pass

Mobility as a Service (MAAS) Principles 1

▶ Expand and integrate **shared-ride mobility options** to move people easily and efficiently, including:

  ▶ Network of local, limited-stop & express fixed route transit serving moderate to dense

    ▶ Affordable and Young Professional Housing

    ▶ Office and Commercial developments

  ▶ Transit Hubs for easy transferring between buses, bikeshare, carshare, demand-response, regional bus and Amtrak

  ▶ Geo-fenced zone demand-response connections from the curb to a transit hub and one or two nearby shopping and/or medical destinations

Mobility as a Service (MAAS) Principles 2

▶ Remove the **institutional silos** that can hinder movement between modes and providers, such as:

  ▶ Single-provider Fare Payment

  ▶ Single-provider information

    ▶ brochures

    ▶ websites

    ▶ apps

YAFFE MOBILITY CONSULTING

STEVE YAFFE

P R O P R I E T O R

Yaffe@YMobility.info
703-901-9049

Focus on Demand-Response
* ADA & Human Service
* General Public Feeders
   to Transit Hubs