Advanced Customer Information Strategies

OUTLINE

- Evolution of Customer Information (CI)
- Current State of CI
- Emerging Medium-Term Visions
- Challenges and Required Research
- Some New Models for Transit

Enabling Technologies

- AVL provides current vehicle locations
- Automated scheduling systems make service plan accessible
- Google (General) Transit standard formats provide universal trip planning
- GPS and WIFI cell phones provide current customer location
- AFC provides database on individual trip-making
- Wireless communication/Internet apps

Evolution of Customer Information

- Operator view → Customer view
- Static → Dynamic
- Pre-trip and at stop/station → En route
- Generic customer → Specific customer
- Active systems → Passive systems

State of Research/Knowledge in CI

- Pre-trip journey planner systems widely deployed but with limited functionality in terms of recognizing individual preferences (e.g., Google Transit)
- Next vehicle arrival times at stops/stations well developed and increasingly widely deployed
  - both often strongly reliant on veracity of service schedules
  - ineffective in dealing with disrupted service
- Real-time mobile phone information
  - many new apps, some great, some not so great
  - despite Google's entry, large cities still seem to have many non-dominant popular apps

Examples of Well-Designed Mobile Apps: NextBus, CityMapper, and Transit?

- First finds your location
- Lists all services and nearest stops for each within 1/4 mile radius
- Scrolls to show next 2-3 vehicles for each service in each direction
- Apps now includes a lot more ("Sharing" modes, Zipcar)

Medium-term Vision

"Transit" becomes a virtual presence on mobile devices:

- Could redefine transit to reflect all types of mobility services
- Do (will) everyone have their lives on their smart phones?
  - Single device for payment and information
  - Can personal tracking apps (e.g., *Moves*) incorporate/be combined with app planning options
  - "Station in your pocket": no need to restrict countdown clocks, status updates, trip guides to stations or fixed devices
  - Lifestyle services: guaranteed connections, in-station navigation, bus stop finder, on-vehicle and en-route alerts, transit validation, rendezvous, ...

Emerging Possibilities

- Exception-based CI based on stated and revealed individual preferences, typical individual trip-making, and current AVL data
- Integration of AFC and CI functions through payment-capable cell phones
- Can CI actually attract more customers?
  - multi-modal trip planner/navigation systems
  - with a well-planned marketing program

Remaining Challenges

- Getting all systems (public and private) to release all real-time data
- Establishing/Promoting a standard format (e.g., GTFS-real-time) so apps can work wherever you travel
- Determining how to make better real-time arrival predictions
- Determining how best to communicate during major disruptions, when real-time predictions are less useful
- Providing more CI quickly and cost-effectively w/o disturbing disabled advocates
- Can we incorporate private ridesharing into our real-time apps? (e.g., Rideamigos, Carma)

Potential Research Questions

- Can arrival time predictions be improved when congestion occurs?

- How can the availability and analysis of real-time information better inform development of the operating plan?

- Can we really change travel behavior (e.g., by targeting drivers with better transit and ridesharing information)

- What is the impact of real-time info on transit rider behavior?

Testing New Customer Strategies

- Large panels can be divided for periodic tests of new communication options

- Market research morphs into prototype services

- Pilot programs in partnership with bike and carsharing and TNCs to transit customers: Mobility as a Service (MaaS)

- Immediate feedback from motivated users (guaranteed by ongoing incentives)

- Tie to fare cards or cell phones provides ridership response

- May help to define better ways to deliver bad news (e.g., service disruptions)

Updating our Customer Research: One New Approach

- Use automated fare data to identify distinct customer research "panels"

- Registration data and permissions are key: a surprising number of customers will opt to participate

- Email and web surveys used to measure attitudes, perceptions and expectations only—tied to usage through fare transaction data and "tracking" data from apps such as *Moves*

- Use significant "lottery" incentives to boost response rates

- Panel data continually enriched over time

REDEFINING URBAN MOBILITY

- Modal share of public transportation into downtown during morning rush hour up to 73%
- Modal share of active and alternative modes of transportation has also increased
- More cars on the island, but younger generation uses other means for their mobility
- Growing popularity of bicycles

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INTEGRATED MOBILITY

> A variety of services targeting a variety of users

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CONCLUSIONS DRAWN FROM PILOT PROJECT

> Joint bus – bicycle use is both possible and even desirable
> Safe and functional concept
> Adopted by cyclists
> No impact on bus performance
> Deployment on a case-by-case basis: layout designed for safety and adapted to surroundings are necessary

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BUS – BICYCLE RESERVED LANE UNDER STUDY

> Best practices from around the world were analyzed.
> Each corridor is unique, so a case-by-case approach is preferred.
> The STM has and will continue to test various concepts through its pilot projects.
>> Partnerships with stakeholders concerned with sustainable mobility, **including bicycle proponents.**

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Can All This New Technology (and Marketing) Lead to a Re-Definition of "Public" Transportation?

- Limited capital investments still being made (easier for service expansions)

- Almost no new operating resources available

- But ... unheard-of levels of private marketing funding combined with "market" rate pricing of alternative services

- One possible future: core high-frequency transit services on limited routes with low fares combined with market-rate services for first/last mile and third-party subsidies where needed, all informed by and paid for by a MaaS phone app

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