

# Coordinated Transportation

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# Agenda

- **Transportation Coordination Technology Issues**
- **Coordinated Transportation Models**
- **Transportation Brokerages**
- **Open Discussion/Questions**



# Transportation Coordination defined:

A process where human service agencies, transportation providers, consumer groups, and public officials work together to develop and improve services for transportation disadvantaged individuals, by ensuring that transportation resources funded by different programs are coordinated.

Coordination demands communication, trust, flexibility, and the willingness to focus on client needs.

It will:

- Develop and improve transportation options
- Improve access
- Minimize service duplication, and
- Facilitate appropriate, cost-effective transportation with available resources



# Questions & Goals

- How do we manage transportation services that promote efficient use of resources for:
  - Increasing ridership
  - Decreasing cost to deliver service
  - Expanding service options
- What role can technology play?
  - What do I have to work with?
  - What do my customers want?
  - How do I manage multiple funding / reporting requirements?
  - How can I improve my service?
  - How can I better understand and manage my transportation system?



## Kansas Position

Currently, KDOT contracts with almost 100 5311 providers (the most of any state). We are currently moving to a regional transit approach which will reduce the amount of providers and allow for individuals in the rural areas of Kansas to travel over longer distances, which is so necessary as many services are moving out of small towns.

In order for our regional transit approach to work, we must have one call dispatching. Currently, we have two locations operating on NOVUS with an additional four locations by early 2010. We are hoping that, in the next 3-4 years, the entire rural area of Kansas will be covered by NOVUS dispatching software at regional one call dispatching centers.

**Lisa Koch, AICP**  
Public Transit Manager  
Kansas Department of Transportation

# Coordinated Transportation

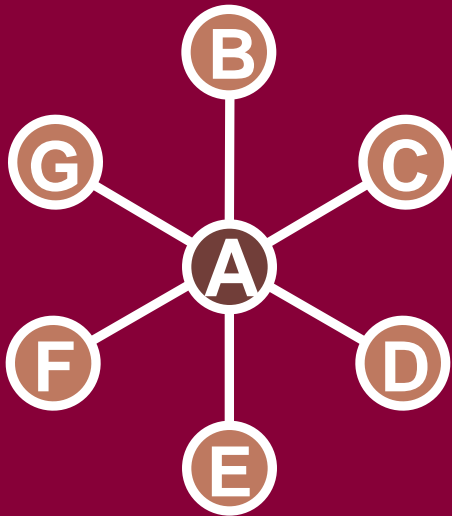
- Support multiple providers/operations on central system
- Configurable system & scheduling parameters by provider
- Manage contracts for each service provider
- Managing Providers

The screenshot displays the NOVUS software interface for trip booking. The main window shows a trip for MRS. DAWN DUDLEY on April 23, 2009. The interface includes a navigation menu with options like My Tasks, Client, Scheduling, Dispatch, Reports, Admin, System, and GIS. The main content area is divided into several sections:

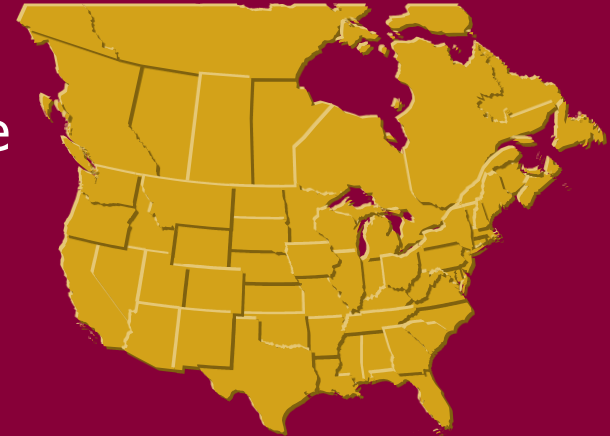
- Client Information:** Select Client: /95, Start Over, Find, Another Booking, Unregistered Booking.
- Modifying Casual Booking:** MRS. DAWN DUDLEY [ 95 ]
- Passenger Scheduling Comment:** Empty field.
- Solutions:** A table with columns: Solution, From Time, To Time, Run, Violations. It lists four solutions for the trip.
- Parameters:** Search Time Window: [k] - 0 + 0. Parameters Set: Default. Violations Set: Default. Transport Modes: DAR. Max Transfer: [Empty].
- Table of Scheduled Trips:** A table with columns: EstBegin, Act., Address, Client, Status, Mob. Aids, Violations, Pass On/Off, Pass OB, Space On/Off, Space OB, Phone. It lists various trips for different clients and providers.

The bottom of the interface shows a search bar with buttons for Search, Accept, and Reject. The status bar at the very bottom indicates "Trusted sites | Protected Mode: Off" and "Done".

# Accommodate Unique Business Models



- State wide
- Rural
- Urban



# Coordination Technology Issues

- What are the goals of the agencies?
- State, Regional, or local coordination?
- Things to think about when agencies want to coordinate service:
- Different models of coordination
  - Developing questionnaires for you to survey your clients or potential client to identify which model will fit





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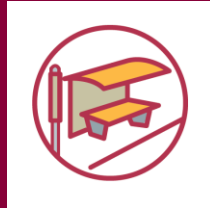
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# Intermodal Coordination



Demand  
Response



Fixed Route



Rail



Rideshare

*All modes of transportation  
at an agency are coordinated  
through a single database*



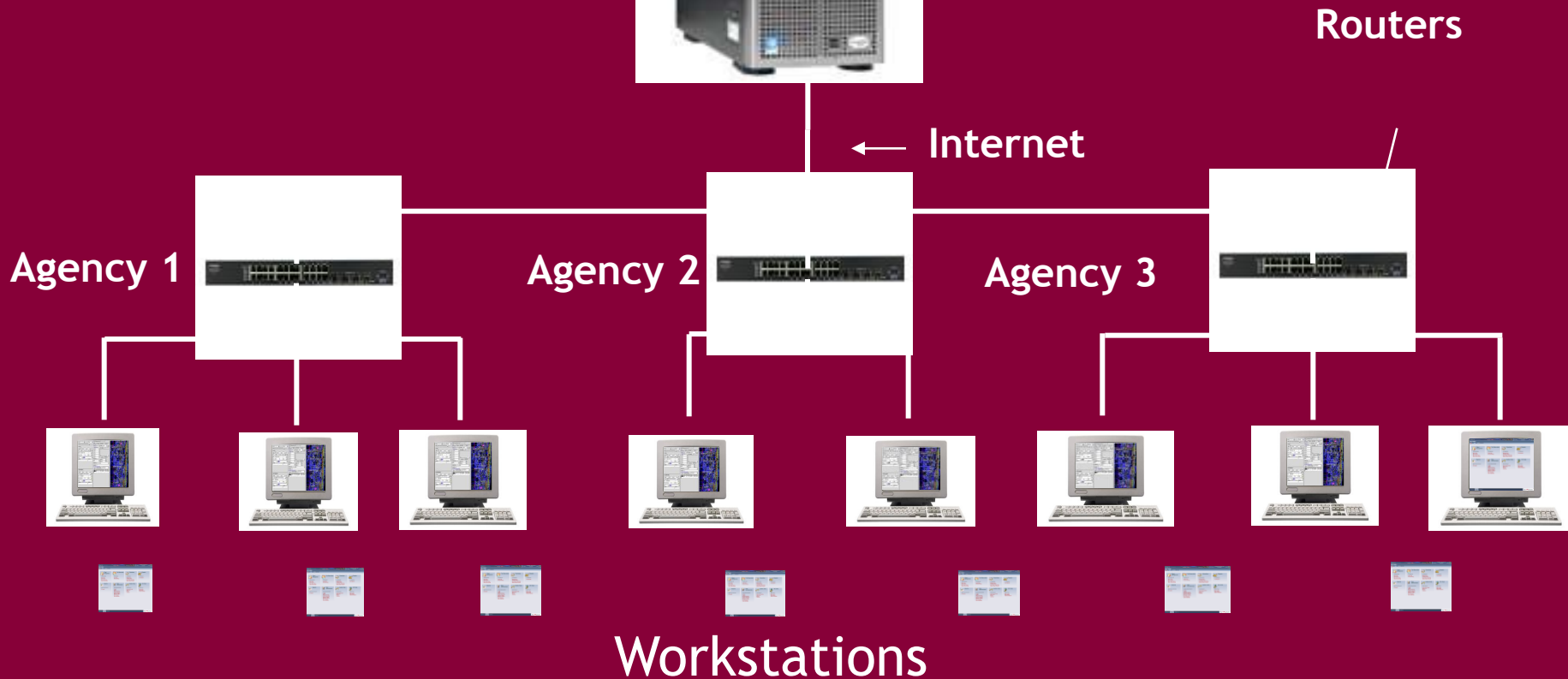
# Intermodal Coordination

- Only local/Interdepartment coordination
- Typically needed for ADA or Feeder service.
- Single Integrated Database

# Multi-Agency Single Database

Server Cluster - Controlled by Lead Agency

*All agency data is kept on a central server controlled by the lead agency*

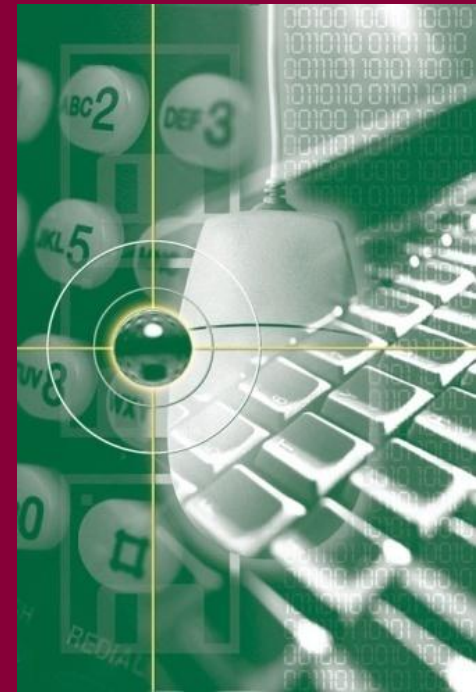


# Multi-Agency with Single Database

- How to deal with technology issues for this model
  - GIS Engine – All agencies share same map data on single database.
    - What data sources are being used
    - How often will the maps be updated? At the same time?
    - Who is going to merge new map data with old?
    - Who will be allowed to make map data changes?
    - Who determines and controls polygons?
  - Data Exchange – Occurs using a single database
    - What interfaces are needed?
    - Rider eligibility systems?

# Multi-Agency with Single Database

- How to deal with technology issues for this model
  - Data Control
  - Security – Who do you want to see the data?
  - Internet Connectivity – Need fast internet to connect to database housed by lead agency
  - Contingency Plans



# Multi-Agency with Single Database

- How to deal with technology issues for this model
  - Politics
    - Different operational requirements
    - Data control issues
    - Data Liabilities
    - Operational Liabilities (i.e. accidents, missed transfers, driver training)
    - Revenue/cost sharing
    - Faring Differences
    - IOA
    - Unions
  - Reporting Needs
    - How do they differ?
    - Billing Needs
    - Statistic Calculation

# Multi-Agency with Single Database

## Pros and Cons of this model

### – Pros

- Improved operational efficiencies
- Improved Mobility for riders
- Shared software costs
- Shared Hardware Costs
- Shared IT Cost
- Single Database
- Fairly easy to do real-time coordination

### – Cons

- Give up some control
- Compromise
- Hard to customize
- Increased operational costs?
- Less security
- Single database
- GIS data coordination



# Multi-Agency with Multiple Databases in Real-time



**Communications Server System at each agency**



**Central Server Facility (Host Agency)**



**Transportation Software Server**      **AVL Server**



**Agency Site Dispatch**



**Transportation Software**

**AVL**

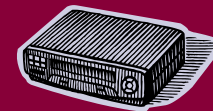


**One system in each vehicle**

**Mobile Unit System**



**Vehicle Tracking Device**



**800 MHz Radio**



**MDC**

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# Transportation Brokerages

- Created to reduce overall costs and provide clients with most efficient and appropriate mode of transportation
- Call centers are established for a point of contact for clients
- Better control of the data, billing, reporting
- Provides a “responsible” party for the state/contracting agency, less fraud
- Offload provider contracting, processing, and policing from agency





Discussion  
Questions?