



Maintaining and improving rural transit supply in an era of cost cutting.

PARATAXIS - Intermodal solutions for rural communities and beyond

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# Rural Problems

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- Lack of sufficient access in rural communities.
- Social, disability and age based exclusion.
- Public transit provided at a very high cost per capita.
- Predominance of private cars and necessity to purchase a personal motor vehicle (PMV).
- Existing services (Access-A-Ride, Dial-a-ride etc) :
  - Van and bus based services;
  - Inherently inefficient (flawed by design);
  - Costly (contributing to public transit fiscal problems);
  - Continue to leave areas without transportation.

# Paratransit:

## Differing Interpretations - USA

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### Interpretation, Origins & Legal Evolution in the USA

Services intended to provide accessible transport for individuals with disabilities

- **Rehabilitation Act Section 504 (1973)**
  - Led to door-to-door system for elderly and handicapped
  - Discrimination unless federally funded mass rail systems not retrofitted for wheelchair access over 2 decades
- **Lawsuit: American Public Transit Association vs. US DOT**
  - APTA won, and only most important subway stations need be retrofitted
- **Americans with Disabilities Act (ADA) of 1990**
  - Requires equivalent service between disabled and non-disabled
  - Taxicabs exempt from mandatory service under the ADA
  - US DOT “Equivalent Service” standards: if taxicab service provided voluntary, must be equal, e.g., response time, cost, vehicle, etc...

# Paratransit:

## Differing Interpretations - USA

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- Today – 2 Types of Paratransit Services
  - Vans and sedans subsidized for use by mass transit agencies (e.g., NYC's Access-A-Ride program)
  - Private non-emergency medical use subsidized by government human resource agencies (e.g., Medicaid & Medicare)

However, as differing interpretations of Paratransit exist we should not limit our analysis to US interpretation of Paratransit alone.

# Paratransit:

## Differing Interpretations - UK

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### Interpretation, Origins & Legal Evolution in the UK

A generic term identifying public transport (transit) services provided from vehicles outwith traditional forms of transport, typically bus or rail, including specialist accessible vehicles, plus Demand Responsive Transport (DRT), Community Transport (CT) and Taxis.

- **Town Police Clauses Act 1847**
- **Transport Act 1985**
  - Defines sections for new transport modes, DRT / CT
  - Deregulates Local stage bus services, creates private competitive market for buses in England
  - Allows Taxis to operate as limited bus services
- **Disability Discrimination Act 1995**
  - Determines right to equal treatment
  - defines minimum vehicle standards for bus and rail, but NOT for taxis.

# Paratransit:

## Differing Interpretations - UK

### Paratransit services today

- **General transport**

DRT and CT, operating where full commercial transit not provided. May receive capital support, typically bus purchase costs. DRT has infilled in rural communities, but may equally supply to specialist needs. May also include supported dial-a-ride services and Taxibus.

- **Health Care Transport**

Split between statutory emergency, ambulance service; statutory non-emergency mix of ambulance service and CT; includes hospital cars

- **Special Educational Needs**

Transport to distant schools for individuals with specialist needs. statutory service, mix of Contract Bus and Taxi

- **Schools Transport**

Transport to schools over 3miles distant. Statutory service, mix of contract bus, own account bus and taxi

- **Social Transport**

Transport for social support. Statutory service, mainly taxi, but may include own account bus

# Why aren't taxis used more often?

## Paratransit, USA

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- Mindset

- Origins of government transportation policymaking.
- 1893: Logan Walter Page, First Director of Federal Bureau of Public Roads – required engineers to run State highway department in order to receive Federal funding.
- Studies & research for last century focused on public roads, transportation infrastructure & mass transit – not “private” taxis

- Mistakes

- Square peg in round hole: building a mass transit (bus-like) system service designed to accommodate many when there is a demand-responsive need for just a few
- Inefficient demand-responsive non-fixed route van service = huge subsidies

- Taxi Service More Expensive

- Taxis overlooked because private (mindset) and premium service
- Subsidies could have more efficiently been provided to the industry

# Why aren't taxis used more often?

Paratransit, UK

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- Definitions of public transport; separate consideration of taxi supply compared to other transport modes, reducing the incidence of common supply
- View of ownership and protectionism on the part of the fleet owner the responsible authority particularly in the case of non-emergency passenger transport
- Inconsistent and incompatible software, Cleric, Mobisoft, Trapeze etc.
- Lack of willingness on part of councils
- Lack of willingness on part of operators
- Lack of knowledge of potential market

# Scope

Wider issues to consider: Sustainability

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- **ENVIRONMENTAL SUSTAINABILITY**
  - Personal Motor Vehicles (PMVs) in rural areas contribute carbon footprint
  - Bus “Environmental Break-Even” point at 8 passengers
- **ECONOMIC SUSTAINABILITY**
  - Public budgets for transport disintegrating, non-statutory services being cut
  - Duplication on existing routes
  - Potential for route combinations, route feeders and planned shared transport

# Scope

Wider issues to consider: Safety

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- Demographic shift, growth of senior and disabled population.
- Urban areas supporting specialist transit, not affordable in rural communities
- Rural community accessible and traditional service cuts.
- Impacts on driver behaviour, auto-reliance, lack of alternatives.

# Scope

Wider issues to consider: Cost

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- Overbilling, potential for fraudulent claims
- Lack of knowledge, data, understanding, controls
- Waste of public funds: unnecessary expenditure, misallocation, collection costs
- Non-statutory payment, US: Medicaid & Medicare reimbursement, UK Voluntary and 3<sup>rd</sup> sectors
- Disproportionate Government Spending Ratio for Rural Communities
  - E.g., in U.S., 25% of population reside in rural areas, but only 6% of federal transit funding is allocated to rural areas

# Potential for development

Rural transport enhancement to achieve service enhancements

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## USING TAXIS IN GENERAL TRANSPORT

- Taxi based DRT used, but not common
- Community transport seen as a step toward the goal of inclusion
- Legal frameworks may reduce the ability of a supplier to provide a service, and will act as a deterrent to councils wishing to use such services
- Lack of knowledge on the part of the passenger, and lack of understanding of the taxi industry on the part of the authority

# Potential for development

Rural transport enhancement to achieve service enhancements

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## USING TAXIS IN DISABLED TRANSPORT

- Available fleet, non-exclusive vehicles, able to mix operation types
- Skills and experience in addressing multiple origin destination routes within existing systems
- Some taxi vehicles able to carry wheelchairs, whilst sedans (saloon taxis) may be more appropriate to semi ambulant passenger trips

# Potential for development

Rural transport to achieve cost savings

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- **Cost benefit - savings**
- **Enhanced service and efficiency**
- **Environmental benefits**
- **Safety benefits**

# Changing definitions

PARATAXIS

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Traditional definitions of public transport and transit, including the differences in the understandings of "Paratransit" place limits on the extent to which the use of vehicles in an inclusive transport market may be achieved.

- "Parataxi" term to describe planned and shared "point-to-point" travel for use in rural areas for individual and small group transit
- Addresses issues of availability seen in other forms of Demand Responsive Transportation (DRT)
- Potentially requires less government subsidies to increase both efficiency and individual accessibility / inclusion

# Evidence of impacts

- **U.K. Paratransit / Mixed transit Costs**

- Funding from mixed and limited resources
- Compared to urban transport, rural services cost more where provided, lower occupancy rates, larger distances.
- Limited supplier competition
- Bus based disabled paratransit c. £20 / passenger journey (Scotland 2006)
- Taxi based paratransit c. £12 / passenger journey
- Taxi based mixed sharing c. £4 / passenger journey

- **U.S. Paratransit Costs**

- Access-A-Ride (overall & avg. cost per ride)
- Medicaid/Medicare reimbursement (overall & avg. cost per ride)
- Are rural costs higher than urban costs per capita?

# Evidence of impacts

- Reduced empty running for dual use taxicabs
- Replacement of PMVs and “big bus” with parataxis with lower environmental benefit threshold
- Carbon footprint reduction
- Use clean-air vehicles as para-taxis, including hybrid taxis (West Lothian), and fully electric vehicles.



# Evidence of impacts

- TLC & MTA Pilot Program
- Use of debit cards for taxi subscription service
- Reduces fraud
- Enhances convenience
- Reduces costs overall
- Reduces stranded trip costs
- Allows for increased efficiency (GPS tracking)
- Centralized dispatch system (311?)

# Parataxis, a vision

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- Reduce private paratransit and Access-A-Ride costs by eliminating/phasing out vans as appropriate to demonstrated need
- Deploy taxicabs or licensed for-hire sedans to provide Parataxis service (including ratio of wheelchair accessible taxicabs)
- Uniform government subsidies (all non-emergency transport and public transportation will be prioritized for the disabled)
- Rural communities and non-disabled passengers can also benefit from increased transport services
- All vehicles must be clean air, equipped with accident data recorders and GPS, with credit/debit card capabilities and privately run and subsidized

# Implementation

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## USA

- One agency coordinates all subsidies
- Not caught up in regional planning process (though input required)

## UK

- Agency or commercial coordination, supported nationally, regionally or locally
- Requirement for coordinated planning compatible across existing systems
- Benefit enhanced by mixed use where appropriate, and understanding where it is not