Preliminary Existing Conditions Summary: Task 1 Report

SUMMARY OF REPORT

The objective of this Task 1 Report, as outlined in the study's Request for Proposals, is to provide a preliminary identification of major themes identified thus far in the consultants' assessment of IndyGo's ADA paratransit services that are likely to persist throughout the study. Subsequent study efforts will build on these preliminary findings with a more comprehensive assessment of IndyGo's paratransit services as requested for this "Paratransit Operational Analysis."

The themes and issues documented in this first report have been identified through the following: our initial review of reports, data, and related materials for Open Door and the taxi voucher program; outreach efforts that thus far have included stakeholder interviews and meetings; discussions with IndyGo staff and its paratransit contractor; and our experience in the industry.

Major Themes and Issues

The assessment of IndyGo's ADA paratransit service takes place within a larger framework of changing demographics and a challenging labor market as well as the evolving national and local transportation environment with the advent of new shared mobility modes. Within this larger framework, preliminary efforts in the Paratransit Operational Analysis have identified the following themes and issues germane to the study and likely to remain throughout the study process. These will be analyzed through subsequent study efforts to develop options for IndyGo's consideration for moving its ADA paratransit service forward.

Demand and Cost for ADA Paratransit

Demand for ADA paratransit will continue to increase with changing demographics, resulting in pressure on costs. While the current contractor has improved on-time performance, productivity needs attention, which will reduce the per passenger trip cost and allow the provision of a greater number of trips within the scheduled revenue hours.

Options developed in the study to address demand and cost need to consider that IndyGo exceeds requirements for ADA paratransit, specifically regarding the service area. This impacts the ability to meet ADA's high performance requirements. Possible options might use alternative transportation providers such as taxis and possibly Transportation Network Companies (TNCs such as Lyft and Uber). These providers operate on a same-day basis which exceeds ADA requirements and thus their services can be designed for cost-savings.

IndyGo's taxi voucher program appears to be successfully meeting some of the paratransit demand, and there is opportunity for an increased role, particularly if the supply of wheelchair accessible taxis is increased. Possible use of TNCs would need to address issues related to a lack of accessible vehicles and the need for riders to have a smartphone. Several stakeholders also expressed concerns about TNC driver training and liability.

Increasing demand can also be met by local human service agencies. IndyGo's pilot with Noble is a good example of coordinating the provision of transportation for people with disabilities with other agencies in the community. IndyGo can take advantage of its role as the administrator of the FTA Section 5310 grant program to seek other coordinated efforts so that agencies serving people with disabilities share in providing their transportation.

Organizational Issues

IndyGo's relationship with the Open Door contractor deserves attention, including, for example, the provision of road supervision, use of penalties and incentives related to performance, and the performance standards.

Questions were raised during the study's outreach efforts about reporting practices concerning Open Door to IndyGo's board. Should reports be provided more frequently? Should they provide more perspective on service performance? Should there be more information about plans for paratransit, such as the dedicated facility?

The role of the MAC is important, providing input and information on paratransit services. The committee should also be actively involved in plans for fixed route, given that some people with disabilities use accessible fixed route, and there are opportunities to increase the use of accessible fixed route by riders with disabilities.

Technology

IndyGo is replacing the scheduling/dispatch software for Open Door—transitioning from Trapeze PASS to RouteMatch software. Plans are being formulated to introduce the new software to the contractor in pilot increments in advance of a complete change-over on January 1, 2020, allowing time to train the operator's staff on the new system.

Because any change to one of the key components of ADA paratransit provides an opportunity for disruption, IndyGo should consider extra resources in addition to current plans for training staff. These might include, for example, extra staff, redundancy in operations, and commitments from the technology vendor for on-site and remote support, as well as extensive outreach and communication with riders and agencies serving riders to inform them of the upcoming change.

Beyond technology for scheduling/dispatch, private transportation providers such as Lyft and Uber have introduced new technology features available with a smartphone—such as the

ability to request a trip and "see" the assigned vehicle's location. Could these new features be provided for paratransit riders?

New and Expanded Fixed Route Service for Marion County

IndyGo's implementation of BRT and expanded fixed route service is an opportunity to include efforts to encourage and incentivize riders with disabilities to use accessible fixed route when they are able. While the focus of the county's new transit service has been BRT and a new fixed route network, attention on service for riders with disabilities could be increased. This will require pedestrian infrastructure improvements for better access to and from bus stops. But it can also involve one-on-one travel training; a free fare option for conditionally eligible ADA riders; and a range of services that help people with disabilities find and use appropriate and available transportation options. These options include accessible fixed route service as well as the various specialized services in the county—ADA paratransit, Medicaid transportation, human service agency transportation programs, and subsidized taxis.

Centralizing these transportation assistance services under one umbrella or office is termed *mobility management*. Such an office could help not only people with disabilities but also help agencies and organizations that serve people with disabilities learn about available transportation options in the county and how to assist their clients or patients use appropriate options.

Providing mobility management with accessible fixed route specifically included is in keeping with an objective of the ADA—ensuring that people with disabilities have the opportunity to fully participate in society. Transportation is an important part of that.

BACKGROUND: THE AMERICANS WITH DISABILITIES ACT

IndyGo has offered the federally-mandated Americans with Disabilities Act (ADA) complementary paratransit service throughout Marion County following publication of ADA's implementing regulations in the mid-1990s.

The ADA is federal civil rights legislation, providing a framework for ending discrimination against people with disabilities. Title II of the Act addresses public services, with a primary goal of providing public services in the most integrated manner. For public transportation agencies, this requires the provision and operation of a fully accessible fixed route system.

The ADA, however, recognized that some individuals with disabilities would not be able to use fixed route despite accessibility features, thus paratransit *complementary* to fixed-route service is required. Notably, the regulations specifically recognize that ADA paratransit was never intended to be a comprehensive system of transportation to serve all the travel needs of people with disabilities.

To meet the *complementary* requirements so that ADA paratransit is comparable to fixed route, paratransit must meet six service criteria:

1. Operate in the same service area as the fixed route system, defined as a ¾-mile corridor on either side of bus routes and around rail stations.

2. Have a comparable response time as fixed-route, defined as accommodating trip requests for a particular day during normal business hours on the previous day (i.e., next-day service).

3. Have comparable fares as fixed-route, defined as fares that are no more than twice the base, non-discounted adult fare for fixed route service.

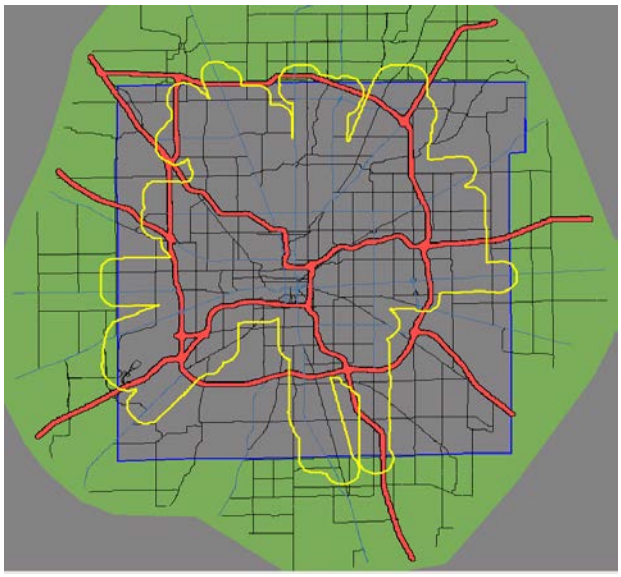
4. Meet requests for any trip purpose, that is, there can be no trip purpose restrictions or priorities.

5. Operate during the same days and hours as the fixed route service.

6. Operate without capacity constraints, meaning no waiting lists, trip caps, or patterns and practices of a substantial number of trip denials, untimely pick-ups or excessively long trips. This criterion has been the more difficult one for transit agencies to meet: transit agencies cannot deny trips for eligible riders and must ensure high levels of performance for ADA trips, including high standards for on-time performance, trip length (measured by travel time), and telephone availability for trip reservations.

IndyGo's ADA paratransit service, known as Open Door, is structured to provide service at the mandated level of performance throughout Marion County and small areas outside the county borders, an area of about 400 square miles, which exceeds the required ADA service area by close to 50%. Figure 1 depicts the county with the required ADA paratransit service area outlined in yellow.

Figure 1: Marion County's Required ADA Service Area Defined by ¾-Mile Corridors Around Fixed Routes



IndyGo has made some adjustments to its ADA paratransit service in recent years to try to maintain the ADA-required level of performance. This includes, for example, the introduction of taxi vouchers through a lottery system, and more recently an increase in the availability of taxi vouchers to address performance issues beginning in mid-2017 and continuing with the transition of

contractors in 2018. Service performance has improved in recent months, though some issues persist.

Against this background, there are significant trends or "themes" affecting the larger environment in which IndyGo provides ADA paratransit service.

MAJOR TRENDS AND THEMES: THE LARGER ENVIRONMENT

Changing Demographics

Marion County's population is growing, including the age cohort most likely to have disabilities requiring specialized transportation such as ADA paratransit—seniors age 65 and older. This age cohort, currently comprising about 12.3% of the county's population, will contribute the most significant potential demand for ADA paratransit (*1*).

The county's senior population is projected to grow in both number and in relative proportion to the total population, as shown in Table 1. Within one year, 2015 projections estimate that 13% of the county's residents will be age 65 and older. Within ten years, that proportion will grow to more than 16%. While seniors are not considered eligible for ADA paratransit solely because of their age, the incidence of disability increases significantly with age.

Table 1: Population Data and Projections for Marion County, 2010 – 2040

Year	Population/ Projection	Percent Growth	Population Age 65+	Percent Age 65+
2010	903,393	--	96,102	10.6%
2020	963,732	7%	125,489	13.0%
2030	1,001,231	4%	162,045	16.2%
2040	1,033,719	3%	168,434	16.3%

Source: STATS Indiana: Indiana's Public Data Utility at http://www.stats.indiana.edu

National data suggest that 35.2% of people age 65 and older have a disability, with an ambulatory disability the most common type. Younger age groups have lower rates of disability: less than 1.0% of the under 5-year-old population has a disability; for those ages 5-17, the rate is 5.6%; and for ages 18-64, the rate is 10.6% *(2)*.

The population of people with disabilities is relevant for assessing the need for ADA paratransit. However, while available demographic data provide current estimates of the number of people with disabilities by jurisdiction, projections for that population segment are not readily available. U.S. population data on disability indicate that 14% of Marion County's population has a disability. This is just slightly higher than reported for the state of Indiana at 13.8% and higher than the U.S. average at 12.6% *(3)*.

Applying the national disability rate for the 65 and older age cohort to Marion County's population projections suggests the following: there may be 44,200 seniors with disabilities in 2020; 57,040 seniors with disabilities in 2030; and 59,290 seniors with disabilities by 2040.

These estimates do not translate to numbers of residents who will have a mobility disability preventing use of accessible fixed route and who might seek specialized public transportation from IndyGo. Rather, the estimates point to the growing population and increasing numbers of seniors that will have an impact on the demand for ADA paratransit in Marion County.

Labor Market

The transportation industry across the country is facing issues with driver shortages, resulting in large part from the robust economy and low unemployment rate. The driver shortage has impacted not just public transportation but also the intercity bus industry, the trucking industry, and school districts looking for bus drivers.

Available data shows that the labor market in Marion County experiences an unemployment rate of 3.0%. This is just below the state's rate of 3.1% and lower than the national rate of 3.6% *(4)*. The low unemployment rate impacts IndyGo's current ADA paratransit contractor, which is actively recruiting for drivers—with promises of large signing bonuses as an incentive. A tight labor market makes it hard for a paratransit contractor to stay fully staffed, particularly for vehicle drivers.

The Transportation Environment

National Level

A prevailing theme in the national transportation environment is the emergence of various shared mobility modes. These include Transportation Network Companies (TNCs), notably the well-known Uber and Lyft; microtransit (e.g., private sector shared transportation through companies such as Via); and emerging micro-mobility options (e.g., bike share systems, electric-assist bike share, and electric scooters).

Some public transit agencies across the country are experimenting with these modes, particularly with TNCs to provide first mile/last mile service to traditional fixed routes and to supplement ADA paratransit services. Other transit agencies often face local political pressure to use these new modes.

Outreach efforts for this study, which thus far have included stakeholder interviews and meetings, found considerable support for possible use of TNCs to support ADA paratransit, though some concerns were expressed. The latter included the lack of wheelchair accessible TNC vehicles; the need for riders to have a smartphone (e.g., some people do not have one); the lack of specialized training for transporting people with disabilities; and liability issues.

While TNCs have become ubiquitous and popular in many cities, they have hurt legacy taxi companies around the country and reduced the ability of taxi companies to support public transit agencies (5). Taxi companies can be important resources for transit agencies,

supplementing ADA paratransit service. Taxi service is also cost-effective. Research in 2016 found the average cost of a taxi trip provided for transit agencies was $23.29, which can be compared to national data on the cost for a paratransit trip reported at $34.06, and, for the largest 50 transit agencies, at $43.65 *(5)*.

Local Level

The Built Environment

The built environment refers to the surroundings created by humans for human activity, which includes the transportation infrastructure. The history of population growth and development of the City of Indianapolis and Marion County has greatly influenced the built environment and the local transportation infrastructure, with impacts on public transit—and paratransit—today.

Indianapolis and Marion County saw significant growth in population and the built environment during the age of the automobile in the 1920s and 1930s, and then witnessed a major transformation during the 1950s through the mid-1970s. This latter time period coincided with the nation's largest infrastructure program—the Interstate Highway System—which further changed the transportation and land use patterns of Indianapolis. Suburban style neighborhoods were built, with single family homes on large lots and wide roads. The resulting development was, to a great extent, spread out and low density, with a roadway system emphasizing travel for vehicles over travel for pedestrians.

Evidence of this emphasis on vehicles is the 50% increase in the number of pedestrian fatalities over the time period 2004-2015. This prompted the Federal Highway Administration (FHWA) to designate the City of Indianapolis – Marion County as a *Focus City* for Pedestrian-Bicycle deaths. The designation provided the City of Indianapolis with technical assistance and funding, which led to the WalkWays Planning Effort, led by the Marion County Public Health Department and Health By Design, an advocacy group focused on the intersection of the built environment, transportation, and public health. The planning effort included an exhaustive existing conditions report, highlighting the lack of sidewalk coverage and accessible curb ramps in Indianapolis. Where there are curb ramps, they are found in areas developed before the 1930s (pre-automobile) or along recently rebuilt roads (as required by the city's complete streets ordinance).

The resulting development pattern and transportation infrastructure in Indianapolis-Marion County adversely affect the provision of public transit which, to maximize effectiveness, requires a density of development and an accessible pedestrian infrastructure to reach transit stops and stations. The outcomes also impact the provision of IndyGo's paratransit service. Shared ride service from spread out neighborhoods to activity centers throughout the low density environment often require long trips to reach destinations which, in turn, lowers the productivity of the paratransit service. People with disabilities who might be able to ride the fixed route bus find missing or inaccessible sidewalks and unsafe street crossings, hindering

use of fixed route. Significantly, research has found that inaccessible pathways to and from bus stops and transit stations is the most frequently cited reason for not using fixed route service by people with disabilities who might otherwise consider fixed route use (*6*).

Addressing land use issues and improving the pedestrian infrastructure require both time and money. Notably, the City of Indianapolis, which is the owner of the sidewalks and most streets as well as the land use regulator, has taken steps that support improvements to public transit: the city has identified land use and sidewalk connectivity as important issues to pursue through recent planning studies.

However, financing such improvements is another matter as funds are limited and the needs are great. One report estimates that $750 million is needed to fix the city's sidewalks, while the city has only a $50 million annual budget for all transportation spending (*7*). Within this context, the local environment in which paratransit operates continues to be challenging.

Expanding Fixed Route

Marion County's local transportation environment must be acknowledged; new funding for public transportation improvements is expanding IndyGo's fixed route system.

After voter approval of a referendum to enact a 0.25% income tax dedicated to transit, the new tax was approved by Marion County's leaders in 2017 with plans to implement three bus rapid transit (BRT) lines and improve the local bus network *(8*). It is estimated that this new tax will generate $56.8 million in 2019 (9).

While the BRT lines have received more attention, local bus service will be enhanced, with more convenient routes across the city, shorter wait times, earlier service in the morning and later in the night, and an improved grid patterns for faster travel times and more efficient transfers (*10*).

The transit improvements will benefit the community, including residents with disabilities who are able to use fixed route. However, the Marion County Transit Plan did not address ADA paratransit or other specialized services for people with disabilities unable to use fixed route (*11*).

With increased fixed route service hours, options to be considered in this paratransit study may need to address expanding the ADA paratransit service span (i.e., hours) to complement new increased fixed route hours to ensure regulatory compliance. Other study options will look at Open Door policies and operational practices as well as options IndyGo has raised before this consulting project, including different policies for the required ADA service area versus the rest of Marion County. However, in light of the new, improved and expanded fixed route system being implemented, possible study options that might limit or change the countywide ADA service for riders with disabilities may be viewed unfavorably.

Beyond IndyGo, the local transportation environment includes another resource—the taxi industry, which seems not to have suffered as much as the taxi industry in some cities with the advent of TNCs; the Indianapolis area is fortunate in this regard. The community's taxi industry has been successfully supporting Open Door through the taxi voucher program.

Local taxi companies—one large taxi company and two smaller ones—participate in IndyGo's voucher program, providing subsidized trips for ADA riders and serving essentially as a type of safety valve for Open Door trip demand. These taxi companies should be recognized as important supplementary resources for meeting ADA paratransit demand and have potential capacity for additional services to support Open Door. Another advantage for taxis is that their role can be structured for cost-efficiency. Same-day taxi service exceeds ADA requirements so that trip limits can be established and the trip charge can exceed the Open Door fare.

Healthcare Industry—Medicaid Transportation

The relationship between ADA paratransit and Medicaid's non-emergency medical transportation (NEMT) service deserves attention as states across the country increasingly contract with private brokers to manage Medicaid transportation.[1] Indiana is one of about 30 states that use Medicaid NEMT brokers.

Private brokers are typically paid on a capitated[2] basis, which is a payment structure that incentivizes the use of lowest cost providers. Such brokers may shift their trips to ADA paratransit when the Medicaid beneficiary is ADA paratransit-eligible. In these cases, the broker benefits because it pays only the ADA fare (e.g., $2-$4) rather than paying one of the transportation companies in its provider network to serve the trip (e.g., $20-$40).

This shifting transfers the responsibility and cost for those Medicaid-eligible trips onto public transit without consideration of the full cost of that ADA trip and, as a result, the broker profits from the shifting of payment responsibility.

The Centers for Medicare and Medicaid (CMS) allows Medicaid agencies to share in the full cost for a trip shifted to ADA paratransit—an amount that is not equal to the fully allocated cost of an ADA trip (i.e., $30-$50/passenger trip) but an amount that is more than the rider's fare (i.e., $2-$4).

Indiana was one of the very early states to receive a waiver for NEMT through provisions of the Affordable Care Act (ACA). That waiver has set some limits on NEMT in the state,

[1] Non-emergency medical transportation (NEMT) is provided for Medicaid beneficiaries to access Medicaid-covered medical services. Service is provided free of charge.

[2] Under capitated brokerages, the broker is given a set amount of funding for the designated service area based on the Medicaid enrollee population and then must provide all appropriate transportation for that set rate (e.g., per member per month or PMPM). Capitated payment methods provide a state with known costs for the duration of the contract – the risk of fluctuations in costs and transportation use lies with the broker.

including a cap on the number of NEMT trips a beneficiary can take unless there is prior authorization. The state has also disallowed transportation for Medicaid beneficiaries with a certain defined income level. These restrictions on Medicaid's transportation service likely induce demand for Open Door by ADA riders who are also Medicaid-eligible.

At the federal level, the current administration in Washington, D.C. has proposed changes to Medicaid that would make all NEMT optional. Such change, if implemented by a state, would be a significant hardship for Medicaid beneficiaries who need transportation, many of whom have disabilities, and will significantly increase the demand for medical trips on ADA paratransit. Should this proposal be approved and should Indiana decide to end NEMT, Medicaid beneficiaries in Marion County will lose their current service and many who have disabilities will likely turn to IndyGo's paratransit service.

ISSUES FOR INDYGO'S ADA PARATRANSIT STUDY

Within the major trends and themes of the larger environment, early efforts in the ADA paratransit study for IndyGo have identified a number of issues and topics germane to the study and that are likely to persist throughout the study.

Paratransit Cost and Demand

Concerns in the transit industry about the increasing cost and demand for ADA paratransit began in the early 2000s as many transit agencies saw demand grow by 5% or more year after year. Research in 2016 found that paratransit services represented more than 12% of total transit costs but carried only about 2% of all transit trips *(12)*. For some individual transit agencies, the cost for paratransit has required a larger percentage—20% or more of the agency's budget—while carrying less than 5% of the agency's trips.

To address rising cost and demand, transit agencies began considering options and implementing practices and policy changes to address the increases, including use of private contractors and revisions to scale back ADA paratransit service where it was originally implemented in excess of the federal requirements.

However, one comprehensive study that assessed these practices and changes found that efforts to control costs, where successful, were more likely to "bend rather than reduce the cost curve" (*13*).

Total annual operating costs for IndyGo's ADA paratransit service have fluctuated somewhat over the past six years; see Table 2. The increase from 2013 to 2014 was due in part to a rate increase for the contractor to compensate for the added maintenance costs required to maintain the older vehicle fleet provided by IndyGo

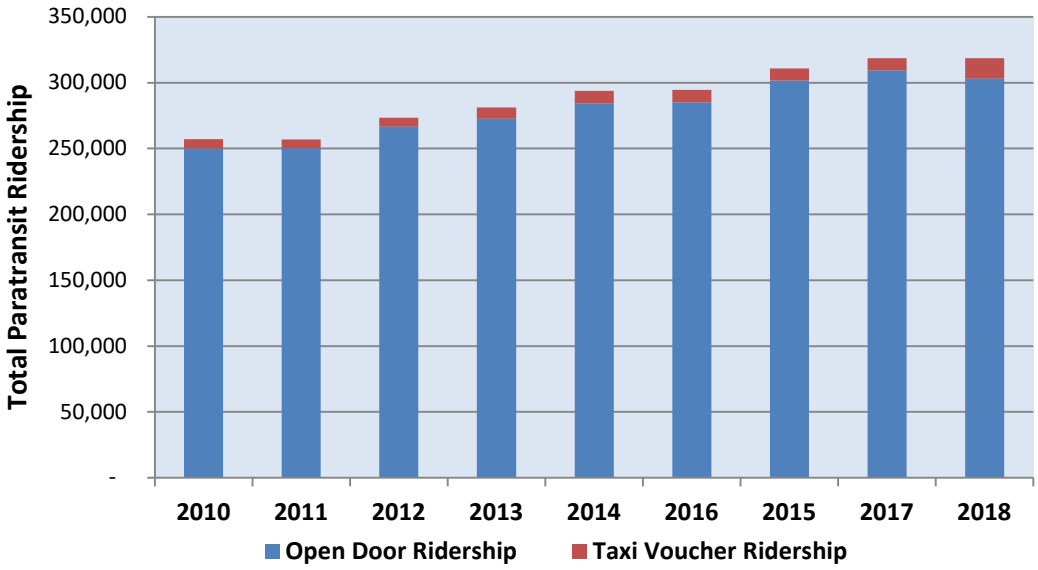
Table 2: Open Door-- Annual Operating Cost, 2013-2018

Year	Operating Cost
2013	$8,785,932
2014	$10,266,230
2015	$9,059,930
2016	$9,659,240
2017	$10,370,485
2018	$9,687,720

for the contractor's use. This rate was then decreased the following year as new vehicles were introduced into the fleet, affecting operating costs. Costs then increased in 2016 and 2017. The decrease shown from 2017 to 2018—a decrease of 7%—resulted in large part from the liquidated damages assessed the contractor because of performance issues.

Total annual passenger trips (ridership) over the years, which include the trips provided through the taxi voucher program, have increased 24% from 2010 to 2018; see Figure 2.

Figure 2: IndyGo Paratransit Ridership, 2010-2018



Open Door trips increased each year with the exception of 2017 to 2018; there was a 2% ridership decrease that time period along with an almost 70% increase in taxi voucher trips. During that period with performance issues of the Open Door contractor, IndyGo deliberately worked to shift ADA paratransit trips from the contractor to the taxi companies to reduce trip demand on Open Door.

IndyGo's use of the local taxi industry through the taxi voucher program is seen as successful. Study outreach efforts to stakeholders found consistent praise for the taxi voucher program, as measured in several ways: adoption by the riders, enthusiasm and support from agencies serving people with disabilities, and support by stakeholders. The taxi industry seems willing and able to participate in the program.

Taxis as well as TNCs may be options to help meet ADA paratransit demand. They can be part of alternative service models designed to provide service more cost effectively than the current model that uses a dedicated paratransit contractor. Use of taxis and TNCs would, however, need to ensure equitable service for those riders who need an accessible vehicle or who lack a smartphone. Several stakeholders also expressed concerns about TNC driver training and liability.

Paratransit Performance

The performance of IndyGo's ADA paratransit service is a primary subject of the paratransit study and will remain an important topic throughout the study. Our preliminary assessment has focused on two key measures:

- on-time performance (OTP)—measures whether the rider's vehicle arrives within the promised "window of time" for the pick-up and drop-off. For shared ride paratransit service, the window is typically 30 minutes. OTP is an important measure not only because it has been a topic of concern for Open Door service, but also because it is a primary measure of service quality for riders, reflecting the reliability of the service; and

- productivity—is a measure of the passenger trips carried per revenue hour of service. It evaluates the ability of the paratransit program to schedule and serve passenger trips with similar origins, destinations and time parameters using the least number of in-service vehicles and revenue hours. This is the essence of shared-ride public paratransit service and often considered the most important single performance measure, assessing the program's effectiveness.

On-Time Performance

Attention to OTP within the Indianapolis community seemed to concentrate on the contractor transition in April 2018, however Open Door performance began to slip by the summer of 2017 before the transition. August 2017 showed an on-time performance of 70.2%. Average OTP for the prior contractor for the last eight months of its operation was 76.4%, well below the 90% standard, below which IndyGo may apply penalties.

Trip timeliness issues continued with the new contractor: the average OTP calculated for the first eight months of service was essentially unchanged from the prior contractor's final eight months at 75%-76%. Performance began improving in December 2018 and averaged 90.3% for the first four months of 2019.

A review of OTP for the past three and one-third years—from January 2016 through April 2019—shows that OTP has never achieved the 95% level, which is the defined standard. This is also true when looking only at 2016 when OTP reached and exceeded the 90% level for four of the 12 months that year but did not reach the 95% level. Note that the contract provides an incentive if OTP exceeds 96% and applies a penalty if below 90%.

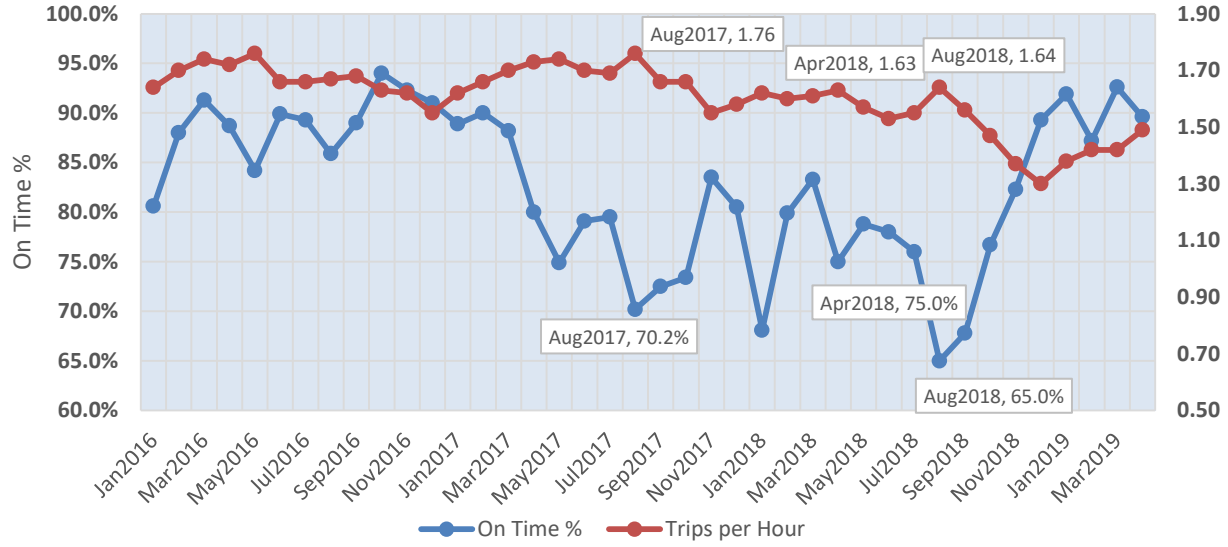
The review of OTP data suggests that the standard may need to be re-visited, particularly in light of the service area that exceeds ADA requirements.

Productivity

While OTP is the primary measure of service quality for riders, productivity is an important measure of cost-effectiveness. IndyGo has defined 1.7 passenger trips per revenue hour as a performance standard that is tied to incentives and penalties.

Yet, too much attention on improving productivity can have an impact on OTP. If scheduling practices group too many passenger trips each hour of service, the reality of the day-of-service may result in trips falling out of their on-time windows. There is a balance between maximizing productivity while ensuring service quality for the riders. The relationship between OTP and productivity for Open Door can be seen in Figure 3.

Figure 3:
Open Door On-Time Percentage vs Passenger Trips per Hour, Jan 2016 - April 2019



Data for late 2016 and early 2017 show that the service can achieve both a relatively high OTP and a high productivity. The prior contractor achieved the stipulated standards—or very close to the standards—during that period. After that, OTP began to suffer, though productivity remained between 1.6 and 1.7 through the remaining months of the prior contractor's term.

After the new contractor's problematic first seven month of service related to OTP, trip timeliness began to improve, but at the expense of productivity. In December 2018 and through the first four months of 2019, OTP was close to or reached 90% but average productivity during those five months was only 1.38, almost 20% lower than the standard of 1.7. Further study efforts will examine Open Door operations more closely, including productivity.

Organizational Issues

Service Model and Relationship with the Contractor

Contracted ADA paratransit service is common in the transit industry; the majority of urban transit agencies use contractors for all or part of their ADA service *(14).* Use of a contractor shifts day-to-day operational responsibility from the transit agency, but IndyGo remains responsible.

The current service model for IndyGo's ADA paratransit service has evolved over the years, from a program operated fully in-house to one that transitioned to fully contracted to the private sector. The service was a hybrid during the transitioning years; at one point, the control center functions of reservations, scheduling and dispatch were provided by IndyGo employees and day-to-day transportation was operated by a private contractor.

One vestige of IndyGo's role in operating the service in-house is the fact that the transit agency currently provides the road supervision for Open Door. This is an unusual arrangement, which reportedly includes, at times, more than road supervision: at least one IndyGo road supervisor uses his access to the Trapeze software to reschedule and dispatch Open Door trips, sometimes without consultation with the contractor's control center staff. Apart from the potential disruption to the operation, the contractor is then held responsible for those trips.

Performance Requirements

The current framework for contractor performance is over balanced toward penalties, based on industry experience and research (*14*). According to the contract, there are four performance standards. These four are included in the contract in a longer list of 50 performance measures. Twenty-five of the measures are associated with financial consequences: six of the 25 have a financial incentive, and 24 have a financial penalty (liquidated damages).

We note that IndyGo negotiates all penalties with the contractor, with the opportunity for forgiveness if the reason for missing the performance target is legitimate (e.g., a lengthy trip with five riders will likely mean the first rider boarding has a long ride time).

Research and experience in the industry suggest that a balanced mix of selected performance metrics tied to financial consequences may foster a more cooperative relationship between a transit agency and contractor. It also limits efforts on both sides for verifying day-of-service performance, negotiating possible penalties, and then finalizing financial consequences (*14).*

Reporting

The performance issues experienced with Open Door in 2017 and 2018 gave attention to the reports that detailed the service. Reporting practices as well as the substandard performance were topics raised in our stakeholder outreach discussions.

Reporting practices for Open Door might attempt to provide more perspective to the performance data in the reports. For example, the contract stipulates an on-time performance (OTP) standard of 95%, yet the contract language accepts OTP as long as it achieves 90%, a level generally accepted within the industry and by the Federal Transit Administration (FTA). What is more important than whether a contractor achieves an OTP of 90%, 93% , or 96% is the *lateness* of trips below the standard: 3-4% that are within 5- 10 minutes of the on-time window are generally not unacceptable in the industry but 2-3% of trips that are 60 minutes or more past the window are not acceptable.

Additional perspective to the on-time performance of ADA paratransit comes from a comparison to the OTP of fixed route service. (ADA paratransit is intended to be *comparable* to fixed route, according to the ADA regulations.) Research has documented that the average OTP of fixed route bus service (not rail) ranges from 61-77% and increases to 76-88% if early departures are considered on-time (*15*).

Input received through stakeholder interviews with IndyGo board members suggested they would prefer more and timelier information and reports about Open Door and its performance, a sentiment likely influenced by the performance issues that became apparent in 2018 with the contractor transition. The inclusion of the new contractor's general manager at the board meetings to present efforts to address service issues was viewed favorably.

The input from board members also revealed a lack of background information or knowledge about certain paratransit parameters and issues. These included the objective of developing a dedicated facility for Open Door; the fare policy change that will require ADA riders to pay half-fare on fixed route; and the reason for a 30-minute on-time window for rider pick-ups. This may not be surprising, given the complexity of ADA paratransit, changing trends in the transit industry, and the fact that the regulatory structure for the service has evolved with experience and litigation over the years.

This paratransit study, and future updates, can be an opportunity to continue building a common understanding—between the agency's staff, board, and stakeholders—of ADA paratransit's complexities, challenges, and options for improvement.

Role of the Mobility Advisory Committee (MAC)

The role of the MAC within the IndyGo structure was an issue raised during study outreach efforts and is relevant for the study.

A review of the MAC structure shows that bylaws formally define the composition of the committee. Formalizing the committee is considered a good practice, helping ensure the committee is structured and membership rotated to bring in new energy and perspectives.

It appears that the MAC became more active in 2018 following Open Door's performance issues of 2017 and 2018: the committee formerly met quarterly and now meets bi-monthly. This increase in MAC activity included MAC representation in the evaluation process of two procurements involving ADA paratransit: the first for this paratransit study and the second for a contractor to administer ADA eligibility certification. MAC representation in these procurements ensures the committee has input into IndyGo efforts that directly impact the paratransit service—input that ensures consideration of the disability community perspective and that may also help improve IndyGo's services for people with disabilities.

In addition to ADA paratransit, the MAC should be included in the early phases of planning efforts for fixed route and fixed route changes. The committee's insights on where to target bus stop and pathway improvements, for example, may help improve the accessibility of fixed route service. Mobility for people with disabilities by providing accessible public transportation is critical to, as stated in the preamble of the ADA: *assuring that persons with disabilities have equality of opportunity, a chance to fully participate in society, are able to live independently, and can be economically self-sufficient (16).*

The MAC is established to serve in an advisory capacity to IndyGo and its leaders (*17*). This role is important and should be encouraged. The inclusion of verbal reports by the MAC Chair at board meetings is a good practice, and the board reports should continue to ensure inclusion of the committee's meeting minutes, helping to substantiate the committee's verbal reports. Additionally, IndyGo board members might be encouraged to attend a MAC meeting on a periodic basis to better understand the perspective of riders with disabilities.

Technology

The paratransit industry has embraced technology for various aspects of service provision, particularly for the scheduling and dispatch functions. But some new features—made popular by TNCs— are not yet available for paratransit riders.

For the scheduling/dispatch software, IndyGo currently uses the Trapeze PASS for Open Door, one of the primary computerized scheduling/dispatch systems used by transit agencies for ADA paratransit services. In addition to Trapeze PASS, Open Door vehicles have mobile data terminals (MDTs) for real-time communications with drivers, which are provided by TransitMaster, an MDT solution designed primarily for fixed route vehicles.

In 2018, IndyGo hired a new CAD/AVL IT vendor. That vendor, Avail Technologies, has almost completed replacement of the TransitMaster systems in IndyGo's fixed route fleet. As part of its bid, Avail included replacing the Trapeze PASS system with RouteMatch software

for Open Door. This will also include replacement of the MDTs in the Open Door fleet. The transition to RouteMatch is expected by the end of 2019.

Experience in the transit industry has shown that changes and transitions of key components of ADA paratransit—whether it's a new service model, a new contractor, or new scheduling/dispatch software—provide an opportunity for disruption. Experience further shows that advance planning for such changes and supporting efforts specific to the change are important. These activities may involve, for example, redundancy in operations, thorough staff training for new technology, technology vendor commitments for on-site operations resources and remote technical support services, extensive outreach and communication with riders and agencies serving riders to inform them of the upcoming change, and implementation, when possible, during a low paratransit ridership time period. Additionally, when contractor staff is the primary user of the software, the contractor's key staff should be extensively involved in the planning meetings and organizational reviews.

IndyGo has begun planning for the transition to RouteMatch with incremental pilots using five vehicles to be scheduled and dispatched with the new software, allowing staff to become familiar with RouteMatch in the months before the change-over date.

Beyond technology for scheduling/dispatch, the transportation industry has various new products that improve the rider's experience. The shared mobility providers such as Uber and Lyft have showcased features popular with users who have smartphones, such as the ability to request a trip via smartphone and then "see" the assigned vehicle's location on the phone. Technology companies that provide scheduling/dispatch systems are experimenting with such features and will make them available as they are developed. Importantly, however, transit agencies that adopt the new technologies will have to ensure equitable service for their riders who do not have smartphones or the ability to use the latest technology.

Outreach and Education About Transportation Options

IndyGo's Fixed Route Service

The expansion and improvement of public transit in Marion County—with the new BRT service, expanded bus routes, and improvements to bus stops—provide an opportunity to assist and encourage more people with disabilities to use fixed route service. For example, IndyGo has provided funding to improve almost 200 bus stops in the next year, which will include ADA accessibility improvements and, in some cases, may include the provision of connecting sidewalks as well.

Fixed route service is already used by ADA-eligible riders. Available data suggest that 2-3% of fixed route ridership is ADA-certified riders (*I8*). IndyGo can encourage more fixed route use with expanded travel training, particularly one-on-one instruction. Group training can be useful but one-on-one training, where the instructor helps an ADA eligible rider learn to take

the specific bus trip or trips the rider needs is considerably more effective, though more time-consuming.

Beyond training, increased use of fixed route service by riders with disabilities requires improvements to the pedestrian infrastructure with accessible bus stops and accessible pathways to and from bus stops serving key destinations. As noted earlier, research found that inaccessible pathways to and from bus stops and transit stations is the most frequently cited reason for not using fixed route service by people with disabilities who might otherwise consider fixed route use (*10*). Our study outreach efforts found support from stakeholders for encouraging use of fixed route by ADA riders but this support was coupled with comments that spoke to a need to improve the accessibility of the pedestrian infrastructure.

Another issue regarding the use of fixed route by ADA certified riders is the revised fare policy, which eliminates free fare on fixed route for ADA riders and will require payment of a half-fare. While many transit agencies provide free fare for ADA certified riders, experience in the industry has shown that such a fare policy can encourage individuals to apply for ADA paratransit certification to obtain the free fare benefit. A more effective approach may be providing the free fare benefit to those ADA riders who have conditional eligibility, which by definition means the rider can use fixed route some of the time and/or for some of the rider's trips. Riders who are granted full and unconditional ADA paratransit eligibility are, according to definitions in the ADA regulations, prevented from using accessible fixed route due to disability.

Specialized Transportation Services

Beyond IndyGo's paratransit services, several other agencies including the state's Medicaid brokers provide or sponsor specialized transportation for people with disabilities in Marion County. These services use different types of vehicles, including taxis, with differing policies, procedures, fare structures and fare media. Vouchers, for example, are used by IndyGo as well as CICOA but the price and procedures for voucher use are not the same. Medicaid transportation, on the other hand, is provided without a fare.

The result of this range of differing specialized services leads to confusion for riders. It also impacts staff at agencies and medical facilities who must keep track of the different services and their differing policies and procedures as they help schedule trips for clients and patients.

A centralized resource for information about and support for the county's specialized services, which should include accessible fixed route, would help users, caregivers, and staff at human service agencies and healthcare facilities better understand the range of services available and their parameters. This resource would provide what the transit industry calls *mobility management*, defined as an approach that helps a community and its residents manage and maximize use of the community's transportation options. Mobility management focuses on assisting individuals meet their transportation needs with an appropriate service from the range of transportation options and service providers in a community (*19*).

Mobility management, which is an eligible expense through the federal Section 5310 grant program, can also serve to publicize and inform the community about transportation options. Outreach efforts for this study found that not all of the organizations serving people with disabilities knew about the IndyGo's new voucher programs (i.e., those for dialysis patients and for subscription riders). Outreach to these organizations and healthcare facilities when new services such as the voucher programs are introduced is important to generate ridership.

Mobility management could also be important should TNCs be introduced as part of IndyGo's services for riders with disabilities. Particularly for older riders who may not be familiar with TNCs, support may be needed to help riders understand how to use Uber or Lyft. Not all riders have smartphones; some sort of concierge service might be needed to book trips for those riders.

The concept of mobility management is timely as it fits with Indianapolis's current City:One Challenge, which envisions "an integrated transportation network." This network would allow residents—and specifically including residents with disabilities—to "know and use the transportation options" that are available (*20*).

Availability of Wheelchair Accessible Vehicles in the Local Taxi Industry

Three taxi companies support IndyGo with participation in the taxi voucher program, but only one has wheelchair accessible taxis. Yellow Taxi Company has 21 accessible vehicles with about 15 to 18 in service on an average day.

As discussed earlier, experience with the taxi voucher program to-date seems to be successful, with the local taxi industry willing to participate. One of the taxi companies told IndyGo staff that it would grow and add drivers if its share of voucher trips increased.

However, the lack of accessible taxis limits continued growth with the voucher program. One of the reasons that adoption by riders traveling to and from dialysis treatment has stalled is the lack of any accessible taxis, according to our study's outreach discussions.

Encouraging more accessible taxis can be approached in several ways, including a regulatory requirement issued by the local taxi regulatory body to require that taxi companies include accessible taxis—either a percent of the total fleet or a specific number depending on the size of the company.

More relevant for IndyGo in the short term is to consider providing an extra payment for taxi trips provided in an accessible taxi for a rider using a wheelchair. Taxi drivers are independent contractors and are motivated by daily earnings. Driving an accessible taxi vehicle is less attractive than driving a sedan for a driver. Accessible taxis, typically ramped-minivans, are more expensive to operate and trips for riders using wheelchairs take longer to serve but ADA regulations prohibit a higher fare for such trips. Providing an incentive of $5.00 to $10.00 for trips provided in an accessible vehicle for a rider using a wheelchair would encourage more

accessible taxi service that could, in turn, provide more support for IndyGo's taxi voucher program (5).

Coordination with Local Human Service Agencies

In 2012, IndyGo was appointed as the designated recipient for the federal Section 5310 grant program, which provides formula funding to states to help non-profit groups meet the transportation needs of older adults and people with disabilities. Through this role, IndyGo administers the grant program, including its requirements to coordinate with "other federally assisted services."

With this authority, IndyGo has pursued specific coordination efforts with local human service agencies to share in providing trips for ADA riders. A notable result is the coordination pilot being planned between Open Door and Noble. With the award of a new vehicle through the federal grant, Noble is working with IndyGo to coordinate trips for five of its clients who are ADA eligible.

IndyGo should continue to take advantage of its role as the administrator of the Section 5310 program and actively pursue coordination with local human service agencies serving clients with disabilities.

End Notes

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