Success Express: Transportation Innovation in Denver Public Schools

A Case Study for Mile High Connects

Todd Ely and Paul Teske

Center for Education Policy Analysis

School of Public Affairs, University of Colorado Denver

February 2014

Mile High Connects
Opportunity for all through transit

School of Public Affairs
UNIVERSITY OF COLORADO DENVER

Success Express: Transportation Innovation in Denver Public Schools

A Case Study for Mile High Connects

Todd Ely and Paul Teske

Center for Education Policy Analysis

School of Public Affairs, University of Colorado Denver

February 2014

CONTENTS

Executive Summary 1
Origin and Background 3
Program Elements 6
System Design 6
Budget Impact 7
Charter School Participation 9
Support for Extended-Learning Time 10
Implementation 12
Communicating Change 12
Changes to the Initial Program Design 14
Utilization and Growth 15
Outcomes 18
Flexibility for Families 18
District-Level Enrollment Patterns 19
Attendance and Truancy 19
Other Outcomes 22
Scalability 23
Expanding Success Express in Denver Public Schools 23
Exporting the Shuttle Bus Model 25
Lessons Learned and Conclusion 26
References 28
Acknowledgments 30
About the Authors 31
Appendix 32

EXECUTIVE SUMMARY

After years of setting the groundwork, Denver Public Schools (DPS) launched the Success Express shuttle bus service in Denver's Near Northeast (NNE) and Far Northeast (FNE) regions in August 2011. Now in its third year of operation, the program continues to embrace its stated objective, "To create a transportation system that would provide opportunity for all students to utilize a service based on choice, location of their school of attendance, and providing school start and end time flexibility" (DPSDOT 2012).

The innovative program attempts to overcome the traditional perception that transportation is a barrier to improving education. The adoption of the system, which supports more equitable choice for students and families, was made possible by active community engagement of parents and grassroots organizations combined with strong leadership at the district and school levels. The creation of the cost-saving program resulted from a confluence of events, and the implementation benefited from an award-winning marketing campaign as well as a willingness to continuously respond to feedback from the school community and the performance of the system.

The Success Express shuttle dramatically increased student access to school transportation in these growing Denver regions that include a large share of schools with extended-day and extended-year schedules. Access to the shuttle bus service has afforded improved flexibility to families. Although the program is still in its infancy, exploratory analysis suggests that its introduction in the presence of other school reforms accompanied significant improvements in attendance and reduction in truancy rates relative to other DPS schools. Anecdotal evidence suggests that, along with other reform efforts, increasing numbers of students in the areas served by Success Express are choosing to remain at a school within their home region.

Whether the Success Express shuttle is deemed an appropriate model for other parts of the district and beyond or is simply the right solution for the challenges in these two regions remains unclear. The lessons learned from its implementation are

that (1) community members and groups should be closely engaged in the process from the beginning, (2) continued bold and creative leadership is needed from the school district to improve school transportation, and (3) school transportation is an integral component of reform efforts targeted at improving equal access to a quality education; those efforts include schools having the discretion to restructure the school day and year and students being able to attend schools of choice.

ORIGIN AND BACKGROUND

The Success Express shuttle bus system has been heralded as an innovation that improves equity among children by allowing them to access preferred schools and programs while minimizing the burden on families. The movement to improve transportation in the NNE region of DPS began in 2007, when parents and Metro Organizations for People (MOP), a community organization now named Together Colorado, approached DPS "about letting more students ride the bus" (Robles 2011). A number of situations facing both parents and principals supported the development of an alternative transportation system in the NNE region. Prior to the introduction of Success Express, only 18 percent of students in the NNE qualified for transportation services (DPSDOT 2010).

When Bruce Randolph School began to add high school grades, some parents were faced with the challenge of having their children in the lower middle school grades continue to receive bus service while older siblings were "aging out" and no longer qualified under DPS transportation policies. The inability to transport siblings to school in the same way caused hardship for families. An ad hoc solution emerged as these parents worked with DPS to use "exempt forms" to gain seats on underutilized school buses for students who did not otherwise qualify for service. Parents at Bruce Randolph began to watch the arriving and departing buses and document the low utilization rates, which demonstrated capacity for serving more students.

At the same time, principals in the NNE region wanted a way to keep high-mobility students from leaving their schools when they switched residences, and transportation was perceived as an important component of maintaining school continuity for displaced children. Other principals, for example Dr. Kristin Waters at Bruce Randolph School, reportedly realized that whole-school programming and reforms such as mandatory after-school tutoring were impossible to implement without providing transportation to accommodate the extended hours of these programs. In addition, both parents and principals perceived the benefits of a more flexible transportation system that would support leveraging assets within the region. For example, students might benefit from participating in organized sports at a different campus from their own, or from access to specialized facilities such as a pool

or performing arts space. School principals and parent leaders convened meetings with district officials through the NNE Network of Schools, which was brought together by MOP "in June 2008 in order to build collaboration among the NNE schools" and continues to be active today (NNE Network of Schools n.d.). Stakeholders noted that the involvement of MOP was indispensable in bringing forward the community's needs and, ultimately, in the development of the new program.

This confluence of issues arising in the region at the time allowed for parents to organize, in part around transportation concerns. The district response to the emerging transportation concerns was centered on Pauline Gervais, then the DPS Transportation Department executive director. Gervais was perceived by key stakeholders as being both receptive to community needs and willing to consider creative solutions. Although the need and demands for a new transportation system originated from the NNE community itself, the idea for the shuttle bus system approach came from Gervais (Robles 2011) as part of a lengthy collaborative engagement between the district and community stakeholders. Implementation of the program was managed by Nicole Portee, the current DPS Transportation Department executive director, following Gervais' retirement.

The impetus for introducing the shuttle bus system differed starkly across the two regions where it was ultimately implemented. The call for improved transportation initiated from a collaborative process with parents and school and district leadership in the NNE, while the shuttle bus system was, in contrast, a piece of the overall turnaround strategy adopted by the district for the schools in the larger FNE region. The process in the FNE was supported by the Far Northeast Community Committee (FNECC), which was a group "made up of parents, teachers, school and community leaders" convened by A+ Denver and DPS (FNECC n.d.). The charge of the FNCC was to "examine issues critical to Far Northeast Denver schools including: academic performance, effective feeder patterns, program offerings, high school configurations, school overcrowding, and strategies to close the achievement gap and meet the needs of English Language Learners" (FNECC n.d.). As of 2009, the district reported that only 20 percent of students in the region were enrolled in schools meeting or exceeding expectations based on the district's performance framework, and nearly a third of students in the region chose to attend schools outside the region (Meyer and Hubbard 2009). The contentious strategy to address low-performing schools in the area (Brennan 2011b) included phasing out existing schools and programs, granting innovation status to new schools, and creating a regional enrollment zone where all students would choose schools rather than automatically attend the school closest to their residence.

The large number of new, nontraditional schools with extended school years and lengthened school days and the changes to how students are assigned to schools in the region required the support of a new, more flexible transportation model

(Brennan 2011b). The plan, referred to originally as the NNE/FNE Shuttle Plan, was presented to the DPS Board of Education in November 2010. The rationale for supporting the plan revolved around a number of main points, with some distinctions between the two regions. First, the shuttle would expand the opportunity for students to attend schools within each region, especially given the lack of district-provided transportation for charter schools not separately contracted (DPSDOT 2010). Second, the shuttle would support "school start and end time flexibility" and provide "after school activity service at no cost" (DPSDOT 2010). Third, the adoption of the shuttle system presented an opportunity to reduce existing transportation costs. In the NNE, it was hoped that the flexibility of the shuttle system would encourage students to attend neighborhood schools (DPSDOT 2010). An additional consideration in the FNE region was the hope that the new system might help alleviate "overcrowding issues by providing transportation to alternative sites" (DPSDOT 2010).

The Board of Education unanimously approved the "Resolution Authorizing Transportation Shuttle for Near Northeast Denver" at a meeting on November 18, 2010 (DPS 2010c). An amendment intended to direct cost-savings resulting from the adoption of the shuttle program "to a community purpose" was defeated on a 5 to 2 vote.[1] At the same meeting, the "Far Northeast Transportation Shuttle Plan" was approved as part of the broader resolution establishing the turnaround plan for the FNE region. The turnaround plan resolution specifically acknowledged existing transportation challenges resulting from failing schools, as "more than 1000 students currently attend a Denver Public School outside of the Far Northeast community, often riding more than an hour on a bus to and from school in another part of the city" (DPS 2010b). The shuttle bus system was an essential, and relatively less contentious, element of the proposed turnaround effort, which also included controversial school closings.

Given the many demands for improved transportation, the system needed to be designed to satisfy students, parents, school leaders, and district officials. The following section describes the details of the shuttle system.

1 Board of Education members Arturo Jimenez and Andrea Merida represented the affirmative votes for the proposed amendment.

PROGRAM ELEMENTS

SYSTEM DESIGN

Traditional school bus transportation systems attempt to maximize bus trips by staggering school bell times (start and end times) based on the grades each school serves. By starting and ending schools in tiers, it is possible to serve multiple schools with a single bus. To accommodate this more efficient utilization of buses, high schools typically start and finish the day earliest, followed by middle schools, and then elementary schools. Beyond the tier approach, another defining characteristic of school transportation is rider eligibility. With the exception of those regions now with Success Express, the DPS transportation policy resembles the norm, where students qualify for bus transportation to their assigned school based on the distance they reside from the school location. The eligible distance threshold increases with the student's grade level. Moving away from this standard approach meant rethinking how to flexibly serve multiple ages of kids attending schools with various start and end times. It also presented a dramatic change in the status quo, as parents no longer would simply get kids to the bus stop (or pick them up) at a single time for a direct ride to school. As Executive Director Portee describes it, "Previously, our transportation system was one bus, one location, one stop. If students missed it, in a lot of cases they didn't have an opportunity to get to school" (Brundin 2011).

The shuttle bus approach, although still using the ubiquitous full-size yellow school buses, differs from a traditional school transportation system in a number of ways (see Table 1 for details). Most dramatically, there are separate fixed-routes in each of the two regions (see route maps in Appendix). The generally circular routes are repeatedly traversed by the same buses in a manner similar to many public transit bus systems. The system operates over an extended period of the morning and afternoon, running from 6:30 a.m. to 9:30 a.m. and 2:30 p.m. to 6:30 p.m., respectively. The continuous morning service currently offers two pick-up times to get students to school before the morning bell and one more pick-up that will get them to school, but tardy.

TABLE 1: *Current Success Express Program Design*

Program Element	Details
Route type	Circular fixed-route
Hours in operation (morning)	6:30 a.m. to 9:30 a.m.
Hours in operation (afternoon)	2:30 p.m. to 6:30 p.m.
Frequency of pick-up	Three pick-ups at each stop (the first two will get students to their school before its start time, and the third will arrive at the school after the start time)
Supervision	Two adults on each bus (the driver and a DPS paraprofessional)
Identification	+Pass identification card system (provides DPS with real-time information on students boarding and exiting buses)

Note: For program details, see: http://transportation.dpsk12.org/success-express/.

The shuttle bus approach raised some concerns from parents and district professionals, especially regarding the safety of younger children. Where the traditional tiered system naturally segregates students by school level, the flexibility of the shuttle bus system can lead to more mixing of students of different ages. The solution was to have two adults on each bus (the driver and a DPS paraprofessional) to monitor the riders. In practice, the bell times for the schools continue to influence when students of different ages are generally on the bus (Robles 2011). Parents also had concerns about knowing the whereabouts of their children, as the flexibility of the shuttle bus allows riders to disembark at locations other than their own school or regular bus stop. The district originally used identification tags for participating students that indicated their school. This has changed with the adoption of the +Pass, a ridership card that provides DPS with real-time information on the individual students boarding and exiting buses using an electronic card reader on the buses. The +Pass also allows district officials to better understand student activity and respond with appropriate changes to transportation schedules.

BUDGET IMPACT

One of the selling points of the shuttle bus system was the potential cost-savings. On the surface it is paradoxical that improving access to and availability of school-district-provided transportation reduces costs, but DPS school district officials expected the shift to the shuttle-based system in the two regions to generate substantial savings. In November 2010, the annual cost-savings were estimated to be a combined $1,030,000 for both regions compared to existing costs. The addition of paraprofessional staffing of the shuttles to address safety concerns offset this savings, resulting in an estimated combined savings of $670,000 (DPSDOT 2010). A presentation to the DPS School Board in February 2012 reported daily costs of

TABLE 2: *Estimated and Reported Cost Differentials of Success Express*

	Estimated 2011–12 (November 2010)		Reported 2011–12 (February 2012)	
	NNE	**FNE**	**NNE**	**FNE**
Traditional Service Costs	$970,000	$1,500,000	$864,555 (2010–11 costs for general and special education)	$1,921,776 (2010–11 costs for general and special education)
Shuttle Service Costs	$750,000*	$1,050,000**	$467,596*** ($2,629 x 171 days = $449,596 + $18,000 for extended-year schools)	$1,126,600*** ($6,296 x 171 days = $1,076,600 + $50,000 for extended-year schools)
Difference Between Traditional and Shuttle Costs	$220,000	$450,000	$396,959	$795,176
Combined Difference	$670,000		$1,192,135	

* Includes $150,000 estimated cost for paraprofessionals to staff 10 NNE shuttles.
** Includes $210,000 estimated cost for paraprofessionals to staff the 14 FNE shuttles.
*** The figures reported here come from DPS. The actual calculations may differ due to the rounding of reported per day costs.
Sources: DPSDOT 2010, 15, 17; DPSDOT 2012, 13.

the shuttle service in each region compared to prior year service costs (for details, see Table 2). These updated figures suggest increased savings compared to the initial estimates.[2]

The budget savings accompanying the shuttle bus system accrue from having fewer buses in service. Having fewer buses for more students also improves utilization rates. Overall, the primary cost driver is the number of buses in service rather than the overall bus miles traveled by the bus fleet. Although there are fewer buses on the road in these regions, they are traveling more miles, so the shuttle bus approach likely results in more frequent inspections, increased maintenance, higher fuel consumption, and, in the long run, the potential need for more rapid replacement of buses. Cost savings from the adoption of the shuttle bus system likely depend on the existing utilization of the school transportation system. In these regions, the shuttle bus system replaced existing routes that were, at least anecdotally, operating below capacity. This is supported by a press report that the shuttle approach was designed to "serve all students, thereby increasing ridership, and making fewer buses more effective" (Robles 2011). Adding new riders and redesigning the system may be less affordable where existing bus routes have less excess capacity.

2 It is unclear from the district information whether the shuttle service costs reported in February 2012 include special education transportation and paraprofessional staff.

In the case of Success Express, reducing the number of buses on the roads not only lowered costs, it also introduced changes to the existing workday for bus drivers on the shuttle bus routes. The district worked with employees and the transportation union as the shuttle bus system was developed. An early concern was the potential loss of jobs, but the new system offered meaningful benefits to existing workers in the form of more paid work hours in a single day (due to the longer continuous runs associated with Success Express), increased hours overall for drivers, and new positions for paraprofessionals. The district worked with the union to have drivers apply for the Success Express routes rather than have the assignments based purely on seniority. This process reflects the belief that the success of the shuttle bus system depended on having the right drivers and paraprofessionals to help communicate and manage the changing service to parents and children.

An especially expensive component of school transportation is providing service to special needs students due to the frequent use of dedicated buses and routes. In designing the shuttle bus system, district officials tried to include special needs students while preserving the ability to provide service outside the circular routes on a case-by-case basis. The district has also used special education buses as express buses within the shuttle system, which has the dual benefits of integrating service and offsetting rider demands with existing bus capacity.

CHARTER SCHOOL PARTICIPATION

The prominence of charter schools in the NNE and FNE regions meant that to succeed in improving access within the regions the new shuttle system needed to offer service beyond traditional public schools. Charter school students do not typically receive district transportation unless the school contracts and pays for such optional services. The initial response from charter schools to the new system was mixed. For many charter schools, the shuttle bus system offered the promise of improved student recruitment, as it removes a primary barrier to choosing a school farther away from home.

Other charter schools were more hesitant, in part due to the costs assigned by the district for receiving the transportation service. The district receives a per pupil amount of funds earmarked for transportation from the district budget for each traditional public school student, regardless of whether all students receive bus service. A similar arrangement, albeit with substantially lower charges, was perceived as unfair by some charter schools that had limited insight into whether their students would utilize the service. In other words, charter schools would pay for the service based on the number of enrolled students rather than the number of actual shuttle bus riders.

The initial per pupil cost for charter schools to opt into the service was reportedly $92, which was ultimately adjusted to $71.25 per pupil (Brennan 2011a). Although the charter school costs are apparently tied to the projected enrollments being served by the shuttles (Brennan 2011a), the method for determining the cost to charter schools is in fact unclear. An estimate of the fees paid by charter schools receiving the shuttle service, based on a fee of $71.25 per pupil, is $177,840 in the initial 2011–12 school year. In 2012, these estimated fees represented less than 1 percent of the district's governmental fund expenditures for pupil transportation (CDE 2012). In its first year of operation, all but one charter school participated. Currently, there is full participation by charter schools, and both the number of charter schools and charter school students using Success Express has roughly doubled since the program started.

SUPPORT FOR EXTENDED-LEARNING TIME

A primary benefit of the shuttle bus system is the increased flexibility afforded schools in setting their start and end, or bell, times. A second advantage exists for schools offering after-school activities: they don't need to worry about arranging alternative transportation options. School-based decisions to expand learning time through longer days and years have resulted in tremendous diversity in time spent at school across the district. As might be expected with the school turnaround effort in the FNE, students in schools served by Success Express had longer estimated average school days and more hours per year than other district schools in the 2013 school year (see Figures 1 and 2). Differences within categories of schools (charter, innovation, and traditional) exist, but may be overstated given that different categories may unevenly serve different age groups of children.[3]

3 We reiterate that the reported average school hours per day and per year are estimates due to incomplete information on the publicly available bell schedule and lack of visibility into some of the more complex school calendars. The average yearly school time estimates should be interpreted with caution as they appear quite high relative to state minimum requirements. For the purposes of this report the estimates can be used for relative comparisons across school types.

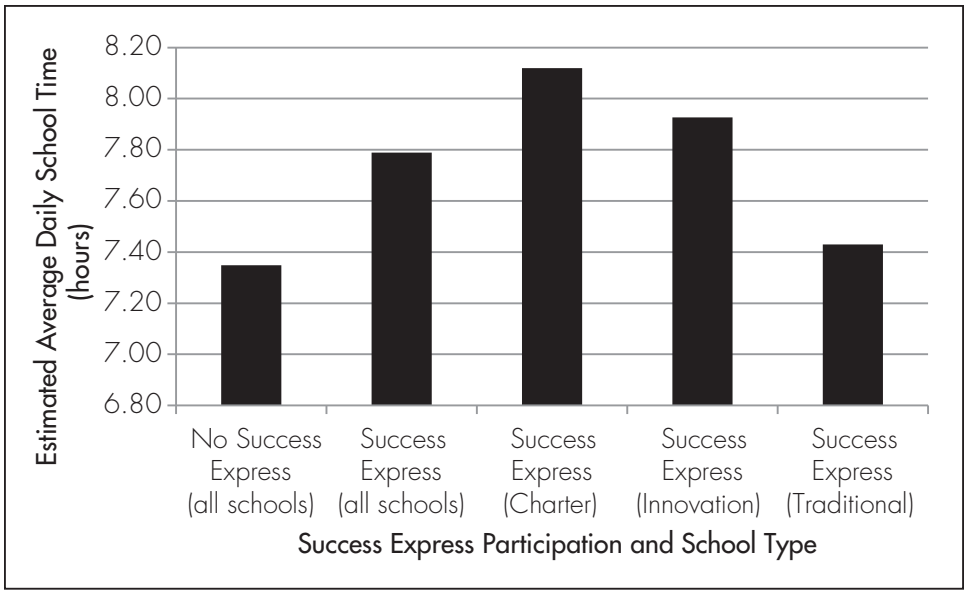

FIGURE 1: *Average Daily School Time by Success Express Participation and School Type, 2012–13*

Note: Authors' calculations based on DPS bell schedule, school calendars, and Success Express route maps.

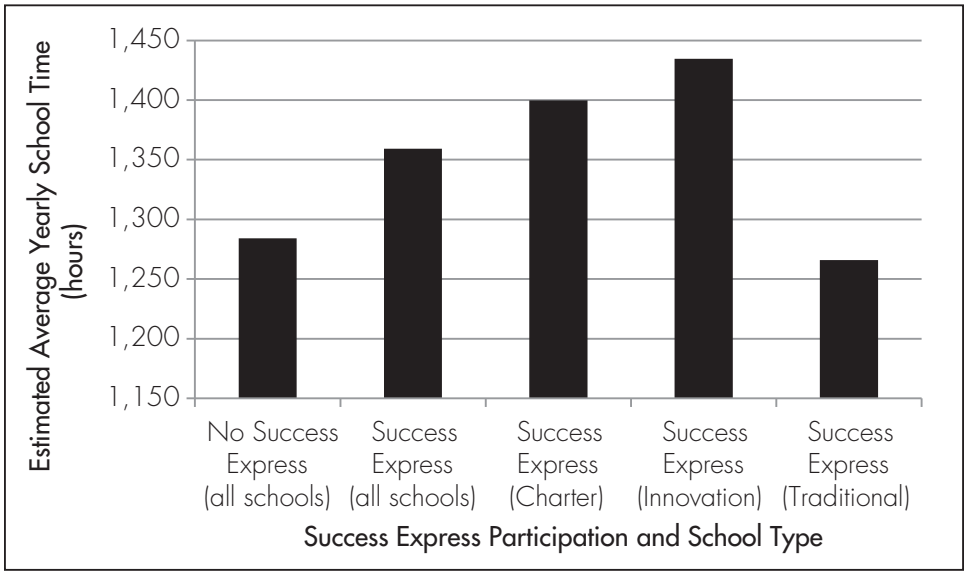

FIGURE 2: *Average Yearly School Time by Success Express Participation and School Type, 2012–13*

Note: Authors' calculations based on DPS bell schedule, school calendars, and Success Express route maps.

IMPLEMENTATION

The design of the shuttle bus program was consistently described as a collaborative process by key stakeholders. Implementing the program presented a number of challenges since the service change was dramatic for both existing and new riders. The DPS Transportation Department identified the key points of the implementation process as (1) "community collaboration," (2) addressing "student management strategies," (3) shared development of the Success Express "brand, logo, and tag line" between the district and community, and (4) obtaining "buy-in of the new transportation concept from customers" (DPSDOT 2012). The district appears to have continuously communicated the service changes and modified the shuttle bus system based on performance and community feedback. The utilization and growth of the service are reflected in the magnitude of the changes in ridership for the district's overall transportation operations.

COMMUNICATING CHANGE

The marketing and branding efforts that preceded and accompanied the rollout of the new service were reportedly integral components of the Success Express implementation. Stakeholders were aware that regardless of the quality of the shuttle service, parents would not use it if its implementation wasn't accompanied by effective communication about transportation options. Parents not only needed to understand how to use the system, but the district had the additional burden of allaying fears about the change to a shuttle system. The district, with a cooperative effort between Executive Director Portee and the Transportation Department and DPS's then marketing manager, Marissa Ferrari, determined the new program needed a strong brand identity.

The need for community acceptance of the new transportation system was especially important in the FNE. In the FNE, the turnaround effort hinged upon parents being able to express their true preferences when selecting schools for their children, since the region saw schooling options change dramatically amid a movement away from zoned schools. If the parents failed to embrace the new transportation

system, then their children would not end up in preferred schools and programs. The district wanted broad involvement in the branding effort to promote ownership and pride in the new system.

The branding effort used focus groups led by DPS marketing professionals to bring together the community and DPS. The process highlighted what parents and students wanted from the system and provided feedback about what to name the program. Executive Director Portee, after soliciting extensive input, selected the Success Express name for the shuttle system. The name is built on the belief that transportation is integral to student success, and the program's associated tagline captures its underlying objective: "Connecting schools, students, and opportunities" (DPS n.d.). The Success Express tagline also aligns with the districtwide tagline of "Discover a World of Opportunity." Following the selection of the name, a professional graphic designer worked with the district to create a logo and color scheme for the marketing and communications efforts. The logo continues to be highly visible on program materials and on the sides of the buses themselves.

The Success Express marketing campaign was intended to be straightforward and engaging. The primary challenge was communicating the complicated details of a fairly dramatic change from the status quo to an extremely diverse group of potential users. The marketing campaign began in May 2011, only months before the Success Express system was launched in August 2011. Beyond the focus groups for branding the program, the district outreach was largely a traditional marketing campaign consisting of ads in neighborhood newspapers, direct mail, email, and robo-call campaigns, along with a dedicated webpage detailing the system. All communication materials were, at a minimum, translated into Spanish.

The campaign tried to provide extremely detailed information in an understandable manner, which proved challenging at times, especially regarding the route maps and schedules, and to address the main concerns of parents about the system. These previously mentioned concerns included multi-age ridership, logistics (for example, "How do I figure out the timing for my child, and what happens if my child gets off at the wrong stop?"), the potential for idle unsupervised time for kids before and after school due to the flexible transportation, and the accommodation of special needs students in the program. Route maps were mailed to all students' homes prior to the school year, and then again after changes were made throughout the first semester. Complementing the traditional marketing approaches, the district used a test-run event before school officially started to help put both kids and parents at ease with the change. The district ran the buses along their prescribed routes, and children and parents could ride the buses together. Although there was limited participation in the event, the opportunity was perceived as valuable. The branding and marketing efforts were validated with a Gold Peak Award for "New Product or Service Launch" from the Colorado American Marketing Association in 2012.

CHANGES TO THE INITIAL PROGRAM DESIGN

The shuttle bus design allows for annual changes as the number or composition of schools change within the regions. Based on district updates, press reports, and stakeholder interviews, there was a definite learning curve as the system was introduced. Beyond adding new stops, the district continuously responded to feedback on the shuttle bus system. According to a district update on Success Express only months after its rollout, the Transportation Department noted that it was "successfully working to accommodate increased ridership, understanding the demands of ridership vs. actual stop locations, changes of bell times, PM dismissal and additional request (*sic*) [for] after school support" (DPSDOT 2011).

The elements that required attention were identified as "underutilized stops/popular stops," "overcrowding on certain routes," "route adjustments/times," "PM dismissal procedure," and "student discipline" (DPSDOT 2011). The district adopted a number of strategies to address these areas of concern, including conducting short assemblies at Success Express–served schools, providing program support materials to "community and parent engagement offices, individual schools, multicultural outreach, and all other DPS offices working with parents," and continuing to engage schools regarding the program (DPSDOT 2011).

A key concern that surfaced as the program began was the length of bus rides for some riders under the new system. For example, riders boarding at one end of the loop and disembarking at the other had rides extended since each shuttle made every stop on the route. One press account noted, "Though there's been grumbling from some parents about the length of some of the bus rides, DPS officials remind them that the alternative, the city bus, would take much longer" (Brundin 2011). The district actively responded by breaking up some of the capacity on the routes and providing some longer-distance shuttle runs at key times that did not make all of the interim stops (for example, between Montbello and Green Valley Ranch in the FNE). There was also regional variation in the issues that surfaced with implementation, as the NNE was geographically friendlier to the shuttle bus approach with its smaller area and dense population of residents and schools.

Probably the most salient implementation challenge, aside from long travel times for some students, was effectively communicating the route schedule to parents and children. The original schedule was deemed overwhelming and caused confusion for some parents and school officials. The difficulty in communicating the route and schedule reflects the nature of a shuttle bus system that serves multiple schools. For this reason, presenting the whole schedule is required even though parents tend to want to see only the relevant part of the route/schedule for their own children's transportation. Parents also desired the information in a familiar format, namely in a similar manner to local public transit schedules, but the circular nature of

the routes led to some confusion when scheduled stop information was presented vertically by shuttle bus. Ultimately the district embedded detailed instructions on how to use the vertically oriented schedule, but the presentation remains complex, especially for new users (see Exhibit A1, "How To Read 'Success Express' Schedule," in Appendix).

Some of the overcrowding issues resulted from unanticipated student behavior. For example, Executive Director Portee described how the district responded to students wanting to all ride the last bus together:

> The flip side is that we've learned about kids' behavior. We know they enjoy meeting up with friends at the bus stop and hanging out until the last bus gets there. Now, we've built a schedule that forces kids to get on the bus and get to school. So instead of a late bus, we have several buses come at once so the students have to get on at the same time. We've had to adapt (Fisher 2012).

Although the program design and rollout addressed many parental concerns about the change in service, the district also expected the program to create a need for adult supervision before and after school. The significance of the added responsibility for school-level personnel is unclear without feedback on Success Express from principals and teachers.

UTILIZATION AND GROWTH

The introduction of Success Express dramatically increased the number of eligible students served by DPS transportation districtwide and within the regions. Despite cost-saving cuts to other existing transportation routes within the district (DPS-DOT 2010), a substantial increase (46 percent) in reported pupils eligible for transportation districtwide occurred following the adoption of Success Express in the 2011–12 school year, as seen in Figure 3.

Concurrently, total regular student pupil transportation mileage declined by about 1.7 percent in that same time frame, despite the shuttle bus introduction and the increase in students being transported (see Figure 4).

From a financial perspective, the district's cost per eligible pupil fell sharply as students were added to the system: from $800 in 2010–11 to $562 in 2011–12, as presented with other district-level transportation data in Table 3.

Expanded access to transportation within the NNE and FNE regions did not guarantee that newly eligible parents and students would embrace the system. Although actual ridership figures are not publicly available for the complete time period since implementation, reported utilization from the 2011–12 school year provides some visibility into usage patterns. After the initial six months of service, a number of patterns became clear. Transportation utilization increased relative to the year prior

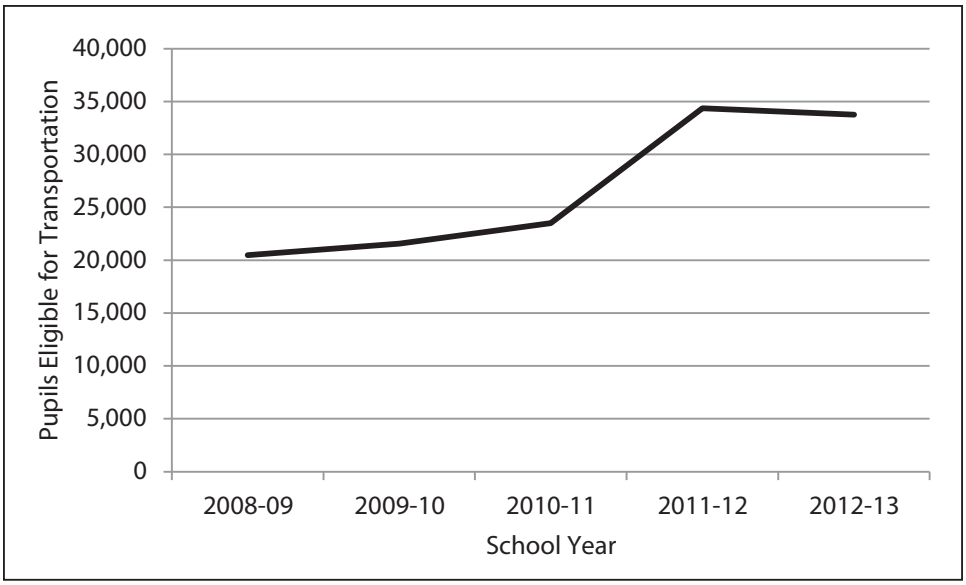

FIGURE 3: *Denver Public Schools Districtwide Pupils Eligible for Transportation, 2008–09 to 2012–13*

Note: CDE refers to the transportation-eligible students as "pupils transported."
Sources: CDE 2012; CDE n.d.

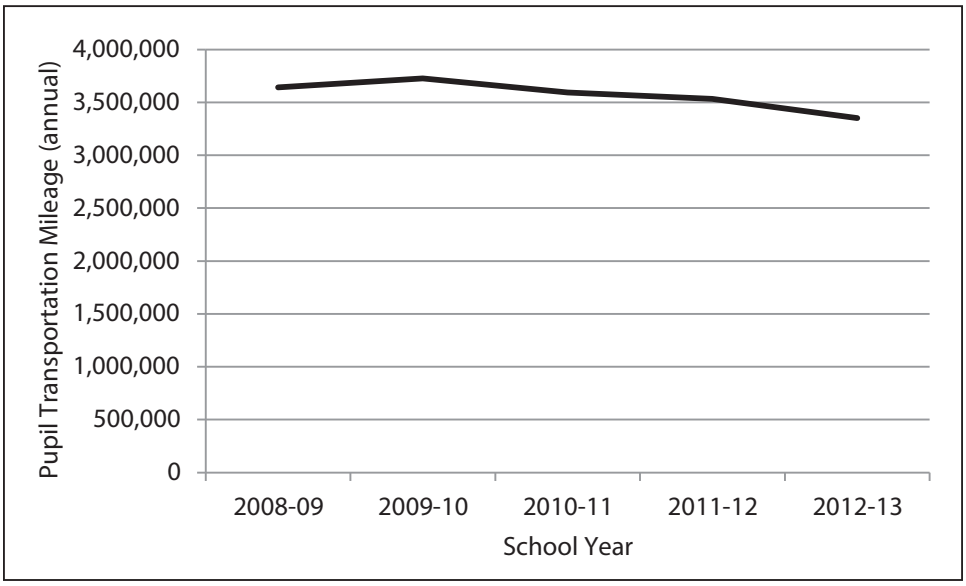

FIGURE 4: *Denver Public Schools Districtwide Regular Education Pupil Transportation Mileage, 2008–09 to 2012–13*

Sources: CDE 2012; CDE n.d.

TABLE 3: *Denver Public Schools Districtwide Transportation Ridership and Current Operating Expenditures, 2008–09 to 2012–13*

	School Year				
	2008–09	**2009–10**	**2010–11**	**2011–12**	**2012–13**
Number of Transportation-Eligible Pupils	20,458	21,562	23,508	34,360	33,758
Eligible Pupil Share of Total District Enrollment*	27.6%	27.9%	30.0%	42.5%	40.5%
Total Miles	3,640,586	3,724,746	3,592,803	3,531,570	3,352,195
Current Operating Expenditures (Transportation)	$19,308,396	$18,839,837	$18,810,065	$19,322,647	$20,354,613
Current Operating Expenditures/ Eligible Pupil	$944	$874	$800	$562	$603
Current Operating Expenditures/Mile	$5.30	$5.06	$5.24	$5.47	$6.07

Sources: CDE 2012; CDE n.d.
*Enrollment numbers come from the Colorado Department of Education (CDE).

to Success Express implementation (DPSDOT 2012, 11–12). In the FNE, Success Express increased the number of eligible riders nearly ninefold, and average ridership rose more than fivefold, from 1,100 to 5,893 per week (the ridership figures are averages of morning and afternoon riders). The NNE saw a smaller increase in eligibility with the switch to Success Express, more than a sixfold increase, and has experienced a smaller relative increase of 188 percent in average weekly ridership, from 587 in 2010–11 to 1,689 in 2011–12.

Afternoon ridership is reported to be slightly higher than morning ridership, suggesting that the service is being used to accommodate after-school activities and parent work hours that extend beyond the end of the school day (for details, see DPSDOT 2012, 11–12). In addition to the overall larger ridership, utilization of the shuttle buses across the regions reportedly averaged "45–42 actual riders consistently during runs" (DPSDOT 2012, 9). The shuttle bus system served 25 actively participating schools in the FNE and 14 in the NNE in its initial school year (DPSDOT 2012). The number of schools served has grown to roughly 45 in 2013–14.

OUTCOMES

Existing research does little to establish school transportation systems as a primary factor influencing student achievement. Yet it is hard to argue with the American School Bus Council's assertion that "To Succeed in School, You Have to Get There" (ASBC n.d.). Regularly getting to school safely and on time in the morning, as well as being able to participate in after-school programs without concern for getting home, undoubtedly has positive impacts on student outcomes ranging from higher attendance and less tardiness to more engagement in school-based activities. The link between transportation and student outcomes is likely heightened for disadvantaged populations due to more limited access to family-provided transportation and, possibly, more constrained parent schedules. Although student outcomes are a common focus for educators, the role of transportation in shaping where a child attends school is similarly important. Previous research on school transportation is sparse, but Teske, Fitzpatrick, and O'Brien (2009) find that transportation constraints can limit access to nontraditional schools and programs, especially for low- and moderate-income families.

FLEXIBILITY FOR FAMILIES

An outcome of Success Express that is difficult to measure is the increased flexibility afforded parents, which may improve quality of life along a number of dimensions. In addition to the primary intended benefit of increasing student access to schools with desired programs, the time-saving aspect of Success Express was highlighted by one DPS parent who noted, "I don't have a car and . . . with three kids, it's difficult getting all of my kids to school . . . So putting them on one bus will save me a lot of time" (Martinez 2011). Another parent draws attention to the work-related benefits of the system, commenting that "During the day, I take care of two babies. And with this new transportation system, I don't have to worry about taking the babies out in the rain or the snow to pick up my daughters" (Brennan 2011a). The introduction of Success Express not only addressed the safety and reliability concerns of parents whose children previously depended on public transit to get to school, but it also reduced the direct economic burden of paying public bus fares for high

school students if they did not qualify for district-provided bus passes (Brennan 2011a). These public transit costs are estimated to fall between $35 and $70 per month for a family (Padres & Jóvenes Unidos n.d.).

DISTRICT-LEVEL ENROLLMENT PATTERNS

Because DPS is a large district with a multitude of ongoing reforms, it is impossible to attribute changes in enrollment patterns in the NNE and FNE to the presence of Success Express. Combined with other district initiatives, though, these regions are experiencing increasing enrollments (in the NNE, due in large part to the growth in the Stapleton neighborhood development). Increasing enrollment has been accompanied by unanticipated improvements in keeping students at schools within their own region in the FNE (DPS 2013). In the 2013–14 school year, 88 percent of FNE students chose a school within the FNE, which is a five percentage point increase since 2010. In addition, fewer eighth-grade students are leaving the district; instead they are choosing to stay in the region for high school (DPS 2013, 23). The positive changes for the district in the FNE region belie its own analysis in 2010 when a report concluded, "The Far Northeast is the region with some of the most significant gaps: the area is growing fast, putting a strain on existing facilities and there is a high concentration of low-performing schools. Students are responding by choosing to go to DPS schools outside the region or avoid DPS schools altogether" (DPS 2010a, 11). Based on interviews with key stakeholders, the Success Express system was a necessary service to support the turnaround reforms credited for many of the positive changes in the FNE region.

ATTENDANCE AND TRUANCY

Without a doubt, Success Express has improved access to school transportation as the number of students and schools it serves continues to climb. A preliminary analysis is presented here to consider whether Success Express is achieving a less visible goal of improving student outcomes by supporting student attendance. With Success Express, missing the bus no longer has to mean missing the entire school day. Evaluating the impact of a more flexible and open transportation system on student outcomes focuses on attendance and truancy rates. In short, has Success Express allowed students to get to school more often than students had been prior to its implementation?

School-level attendance and truancy rates in DPS for the 2009–10 to 2012–13 school years were collected from the Colorado Department of Education and linked to other relevant factors including grades served by the school (elementary, middle, or high) and aggregated demographic characteristics of the students within each

school.[4] The data allow the important distinction to be made between attendance rate (which considers both excused and unexcused absences) and truancy rate (which solely considers unexcused absences).[5] Both measures of missing school are expected to be positively impacted by the availability of the Success Express shuttle bus system. Charter and innovation status is recorded for each school based on state records. Schools served by Success Express in a given year are identified using route maps provided by DPS.

Table 4 presents summary statistics separately for all DPS schools, schools not served by Success Express, and schools served by Success Express in 2012–13. The

TABLE 4: *Summary Statistics of DPS Schools by Success Express Participation, 2012–13*

	DPS Schools		DPS Schools without Success Express		DPS Schools with Success Express	
	Obs.	**Mean**	**Obs.**	**Mean**	**Obs.**	**Mean**
Attendance Rate (fraction)	172	0.93	129	0.93	43	0.93
Truancy Rate (fraction)	172	0.04	129	0.04	43	0.04
Success Express (1,0)	172	0.25	129	0	43	1.00
Charter School (1,0)	172	0.23	129	0.20	43	0.30
Innovation School (1,0)	172	0.15	129	0.11	43	0.28
Elementary School (1,0)	172	0.63	129	0.64	43	0.60
Middle School (1,0)	172	0.16	129	0.14	43	0.21
High School (1,0)	172	0.21	129	0.22	43	0.19
Fall Enrollment	172	485	129	488	43	475
African-American Students (fraction)	172	0.15	129	0.12	43	0.23
Hispanic Students (fraction)	172	0.59	129	0.57	43	0.65
Free and Reduced Lunch Students (fraction)	172	0.72	129	0.68	43	0.85

Note: School observations may not match district totals.
Sources: CDE, State of Colorado Truancy Data, accessed at http://www.cde.state.co.us/cdereval/truancystatistics. CDE, Fall Pupil Membership, accessed at http://www.cde.state.co.us/cdereval/rvprioryearpmdata.

4 School-level data was collected from CDE, including attendance and truancy figures accessed at http://www.cde.state.co.us/cdereval/truancystatistics.

5 Making comparisons using the attendance and truancy rates requires extreme caution across districts but also, to a lesser degree, across schools within a district. As CDE notes, "At the most, the data may be comparable between schools within the same school district only if a consistent attendance policy exists and is adhered to by all schools within the district, including a consistent procedure for taking attendance throughout the school day" (Krueger, n.d.).

number of observations is the number of schools represented in a category, the mean represents the average value for the school characteristic, and the minimum and maximum values for each characteristic are reported at the districtwide level. In the 2012–13 school year, notable differences between DPS schools served by Success Express and other schools in the district include a greater representation of students in charter and innovation schools. Nearly 60 percent of the schools served by Success Express are charter or innovation schools. The student characteristics also differ, with higher average concentrations of minority and low-income students in Success Express–served schools. The demographic differences reflect the regional focus of the shuttle service.

In addition to presenting descriptive statistics, we use multiple regression analysis to estimate a basic model of attendance and truancy rates. The quantitative approach is intended to isolate the role of Success Express while holding other influential factors, such as poverty, constant. Due to the limited control variables, it is important to urge caution in interpreting a causal relationship between Success Express and attendance and truancy rates. A primary challenge is disentangling the role of Success Express from accompanying turnaround and school improvement efforts in these regions. On the other hand, concerns about selection (where especially effective schools opt into the program) are limited here since the Success Express reform was implemented universally in two geographic areas and all schools (including charters) participate. The results, though, should only be viewed as associations between a more broadly accessible transportation system and student behavior in the presence of other school improvement efforts.

In general school attendance rates are quite high and truancy rates are low, but there is ample variation across schools. Based on the analysis, the availability of Success Express is associated with a statistically significant 1.43 percentage point increase in a school's attendance rate (an increase of greater than a quarter of a standard deviation based on the mean attendance rate of 92.4 percent) and a reduction in the truancy rate of 1.28 percentage points (a decrease of more than a quarter of a standard deviation based on the mean truancy rate of 4.3 percent). See Table A1 in the Appendix for details. The closing of failing schools and opening of new schools in the regions served by Success Express raise concerns that the results simply reflect the absence of the failing schools during the years in which Success Express has been available. The results still hold, but the sizes of the associations are attenuated when only schools in operation for all four years of data are included in the analysis. These exploratory results should, again, be interpreted with caution, but the relationship between transportation and truancy reflects past survey responses from North Miami, Florida, that found the reason

given for missing school by 20 percent of the truant students was missing the bus (Berger and Wind 2000).[6]

OTHER OUTCOMES

The focus of Success Express has been primarily at the student level, but the system itself impacts schools and districts. At the school level, Success Express increases the competitive pressures within its service areas. As a district that embraces intra-district school choice, the availability of transportation for all students within these two regions allows schools to recruit students more broadly without concern for transportation as a barrier. Prior to Success Express, charter schools in the regions were not served by district transportation. Success Express increases access to schools of choice, but the flip side is that it may create winners and losers among schools as students become less tied to the nearest school.

At the district level, there are also a number of potential positive outcomes. As a state with inter-district school choice, Success Express may help the district keep some students who would have otherwise opted for a school in a neighboring district. The same can be said for the possibility that improved transportation may keep some in-district students from opting for private schools. The increased access to schools within these two regions has also reportedly reduced the need to bus students to district schools in other regions, in accordance with No Child Left Behind failing school requirements.[7]

6 As there is valid concern that the findings are influenced by outlier schools with extremely high and low attendance or truancy rates, the analysis is also performed by trimming the top and bottom 5 percent of schools based on the rates. The results are robust to the removal of outliers, although the magnitude of the associations decline for both attendance and truancy rates. Due to the bounded nature of the dependent variables, represented as rates, the findings of the analyses are confirmed using fractional logit.

7 According to a presentation made to the Colorado Board of Education on December 14, 2009, across the district there were 1,259 students exercising NCLB Choice out of 1,326 eligible students in the 2009–10 school year, and they typically used bus services (DPSDOT, 2009).

SCALABILITY

The shuttle bus approach to school transportation raises a number of questions about whether Success Express is scalable beyond its current limited use. Related to the existing service areas, how will Success Express service be impacted by growing enrollments? Beyond current service areas, does replication of the Success Express model make sense for other regions, or even all regions, within DPS? And given the apparent lack of innovation in school transportation systems nationally, can the shuttle bus system approach be exported to other school districts in Colorado and nationally?

EXPANDING SUCCESS EXPRESS IN DENVER PUBLIC SCHOOLS

The expansion of the shuttle bus model to other parts of the district has received much local attention, but enrollment growth in the existing service areas may also require expansion. For example, DPS expects there to be around 1,500 additional students in the FNE region in 2017 (DPS 2013, 29). It is unclear how the shuttle system will respond to additional riders where existing capacity is limited, although the gradual nature of the enrollment increases suggests that the district can adjust the system over time.

Additional demand for innovative transportation solutions that improve access to extended-learning-time schools, after-school activities, and choice schools has been demonstrated in other Denver regions. As *EdNews Colorado* reported, "Everyone wants Success Express" (Poppen 2013). In particular, southwest Denver parents have advocated on behalf of an expansion of Success Express to their neighborhoods. Just as early alternative school transportation efforts in NNE Denver were supported by Together Colorado (then MOP), the call for a Success Express–like system in southwest Denver is driven by the activities of another community-based organization, Padres & Jóvenes Unidos.

Specifically, the needs of the West High campus, which also houses West Generation Academy and West Leadership Academy, have been a focal point for efforts to improve transportation services (Poppen 2013). Like the early efforts of the NNE

community, some schools in southwest Denver are actively promoting the use of school bus transportation exception forms to increase access to district-provided transportation. Concurrently, DPS has responded to community demands organized by Padres & Jóvenes Unidos with enhanced transportation service to the West High campus.

Padres & Jóvenes Unidos and local parents continue to push for expanded transportation service for the entire region, although the improvements for the West High campus are considered an important achievement. The current southwest Denver (District 2) and at-large DPS school board members, Rosemary Rodriguez and Barbara O'Brien, respectively, have publicly indicated support for implementing Success Express in the region and throughout the district (Padres & Jóvenes Unidos 2013).

Early commentary from district officials suggested likely expansion of the shuttle bus system to other regions of the district. For example, Executive Director Portee commented in a 2012 interview on the demand for expansion from other neighborhoods. But she maintained a measured tone regarding whether or not the shuttle bus system was the only solution for other areas:

> The Success Express is totally different than regular school bus service, and we have districts in other parts of town that want to roll it out. We're looking at expanding and getting bigger and better, but not this year. Now, we're looking at how we define success in terms of the shuttle service . . . Looking at the arterial layout of [the] community, we're doing a lot of in-depth analysis of the shuttle service and asking ourselves: Is this the right move for this area? I don't think the shuttle service is one-size-fits-all (Fisher 2012).

Contrasting the Success Express experiences in the NNE and FNE regions highlights the challenges of applying the same transportation system in different settings. The system encountered fewer challenges in the NNE, for reasons including a more limited geographic area, higher population density, the distribution of schools, and smaller numbers of children. In the FNE, a full round-trip of the route can reportedly take an hour and a half to complete.

Geographic factors, existing school locations, and attendance patterns must all be considered when determining the suitability of the shuttle bus approach for other areas. These factors include having major roads for shuttle bus routes in order to reduce impact on residential areas. The number of schools and their proximity to each other is also a factor when considering a shuttle bus system. Depending on the physical arrangement of schools and the need to add special routes to serve outlying locations, the circular shuttle approach may be deemed less beneficial than other approaches. There is a clear trade-off between the improved flexibility and access afforded by a shuttle bus system and the increased length of ride times. Beginning

with the premise that all kids across DPS should have the same schooling options (and not be constrained by transportation), some stakeholders envision a system that provides shuttle-like service within district regions with a central shuttle-link to move across regions.

EXPORTING THE SHUTTLE BUS MODEL

The shuttle bus model of school transportation appears to support ongoing trends, such as increased parental choice and restructuring of the school day and year, across the education system. Does this mean that it is a viable and likely model for other school districts in Colorado and across the country? Although transportation officials from other school districts have asked DPS about Success Express, the suitability of the model for other districts appears to be highly context dependent. First, Success Express was a solution to a community-identified problem of limited student opportunity and access in the NNE and as a support for a broader reform effort in the FNE. Other districts may face different challenges requiring uniquely designed transportation solutions. The tradition-bound nature of school transportation may also indicate that the existing transportation legacy system simply works in most settings. In Colorado, the rationale for a shuttle bus approach may be limited outside of the Denver-metro area, which has a higher population density and more active school choice environment than other areas. In neighboring Boulder Valley School District, for example, a recent report recommends more standardization of bell times in order to save money and maximize the efficiency of the traditional school bus system (Bounds 2013). These recommendations are in stark contrast to the increasing flexibility afforded to schools in DPS with Success Express service, but highlight the constant tension between cost and flexibility in school transportation. Outside of Colorado, other urban school districts may benefit from consideration of a shuttle bus model or, at minimum, from looking at how one district innovated to address local school transportation needs.

LESSONS LEARNED AND CONCLUSION

Education stakeholders can learn from the Success Express program as they address challenges within their own districts. Drawing attention to an innovation that went against a standing school board policy is a first step toward encouraging broader experimentation to support students with school transportation. The foremost lessons include recognizing that transportation solutions (1) may be highly context dependent, (2) demand high levels of community partnership and communication, (3) require sustained leadership at both the community and district levels, and (4) can potentially be implemented in budget-neutral, or even budget-favorable, ways.

The district identified what worked in the creation and implementation of Success Express. These activities included:

- Community buy-in/education about the new system and benefits to all schools
- Communications through direct mail, website, DPS communications, and FAQs provided at every school to help address many questions
- The ability to use transportation as a recruiting effort
- Partnership with RTD (the Denver Regional Transportation District) in development of a timeline and logistics
- Clear identification of shuttle pick-up and drop-off locations
- The bus pass implementation process, which allowed staff to ensure the safety of students (DPSDOT 2012)

Just as important were the following challenges and lessons learned that the district documented, many of which have been previously discussed:

- Communicate a more defined 1, 2, 3 step process to parents and allow more time for families to review information.
- Take into consideration that there will be a learning curve for the community of schools, parents, and students who have not utilized transportation before.

- Processes and software systems had to be adjusted as the DPS Transportation Department learned what worked and what didn't with the routing system.
- Certain shuttle locations served as popular locations for students to catch the shuttle on the FNE route, causing ridership overflow.
- Express shuttles were established using special education buses to help alleviate overload of riders at popular locations. At the same time, this allowed special education students to actively take part in the shuttle system.
- Because buses make every stop, it caused rides to be longer, so adjustments were made to the original schedules (DPSDOT 2012).[8]

Success Express would not exist without strong leadership. The parents and principals who advocated for change, coupled with the galvanizing influence of MOP, were essential catalysts. Accompanying community efforts were supportive district leaders at multiple levels, including the school board and superintendent. And finally, rather than being derailed by a planned change in the Transportation Department leadership, the Success Express initiative benefited from the responsiveness and creative design efforts of Pauline Gervais in addition to the collaborative branding and successful implementation efforts of Nicole Portee.

Although leadership was necessary so the transportation changes could move forward, the key lesson learned was the genuine need to involve all interested and affected parties in the dialogue in order to identify and understand the problems, and then make sure that the solution addressed them. From a transportation perspective, a key stakeholder commented that officials need to ensure that schools are driving the transportation system rather than the transportation system driving schools.

This case study provides a glimpse into the school transportation function, but many worthwhile questions remain unanswered as the program continues to adapt to the needs of schools each year. Specific to Success Express, these include understanding the trade-offs between the longer commute time and its impact on the quality of a student's learning while at school. More broadly, it is important to consider the ways in which school transportation is linked to student success and is, as DPS Transportation Executive Director Portee says, "more than just a yellow bus" (personal communication, October 24, 2013).

8 The "Lessons Learned and Challenges" come from a DPS Department of Transportation presentation. They have been edited for readability in this context (for the exact wording, see DPSDOT 2012).

REFERENCES

American School Bus Council (ASBC). n.d. "Access to Learning." http://www.americanschoolbuscouncil.org/issues/access-to-learning.

Berger, William, and Susan Wind. 2000. "Police Eliminating Truancy: A PET Project." *The FBI Law Enforcement Bulletin*, February 2000.

Bounds, Amy. 2013. "Boulder Valley Consultant: Varying Bell Schedules Contribute to High Transportation Costs." *Boulder Daily Camera*, March 17.

Brennan, Charlie. 2011a. "Denver's 'Success Express' to Roll Out of the Station." *EdNews Colorado*, June 3.

———. 2011b. "Opening Day for FNE Denver Turnaround." *EdNews Colorado*, August 10.

Brundin, Jenny. 2011. "Students Board Success Express," *Colorado Public Radio*, August 16. http://www.cpr.org/news/story/students-board-success-express.

Colorado Department of Education (CDE). 2012. *Fiscal Year 2008–09 through Fiscal Year 2011–12 Historical Transportation Data*. http://www.cde.state.co.us/sites/default/files/documents/cdefinance/download/spreadsheet/fy09-12transportationweb.xls.

———. n.d. *Fiscal Year 2012–13 Public School Transportation Reimbursement Payments (Paid in FY 2013–14)*. http://www2.cde.state.co.us/scripts/ fin_disttran_submit13.asp.

Denver Public Schools (DPS). 2010a. *Strategic Regional Analysis, Denver Public Schools, 5/24/10*. http://static.dpsk12.org/gems/turnaround/1.01SRAOverview.pdf.

———. 2010b. *Resolution Approving Far Northeast Denver Turnaround*, November 18.

———. 2010c. *Resolution Authorizing Transportation Shuttle for Near Northeast Denver*, November 18.

———. 2013. *Strategic Regional Analysis, Denver Public Schools Fall 2013*. http://planning.dpsk12.org/wp-content/uploads/2011/09/SRA-Fall-2013-20131014-Final.pdf.

———. n.d. "Executive Director Nicole Portee." http://transportation.dpsk12.org/contact/executive-director-nicole-portee/.

Denver Public Schools Department of Transportation (DPSDOT). 2009. "Transportation Services: Board Report Dec 14, 2009. BOE Work Session – December 14, 2009 Agenda Item 2.03."

———. 2010. "Transportation Service Analysis & Recommended Changes for 2011–2012 School Year: Update, November 2010."

———. 2011. "Success Express Update Far Northeast," October 18.

———. 2012. "Transportation Services: Connecting Schools, Students and Opportunities, Board of Education February 2012."

Far Northeast Community Committee (FNECC). n.d. "Far Northeast Community Committee." http://fneccschools.org/.

Fisher, Michelle. 2012. "Denver Transportation Head Redefining Success through Innovative Bus Service." *School Transportation News*, August 29.

Krueger, Janelle. n.d. "Questions and Answers Regarding Colorado's School Truancy Rates." Colorado Department of Education.http://www.cde.state.co.us/sites/default/files/documents/cdereval/download/word/truancy/truancyqa.doc.

Martinez, Manuel. 2011. "Revamped DPS Bus Routes Gives Students in Northeast Denver More School Options." *Viva Colorado*, August 3.

Meyer, Jeremy P., and Burt Hubbard. 2009. "DPS Data on Its Five Regions Paint Grim Performance Picture." *The Denver Post*, October 13.

Near Northeast Network of Schools (NNE Network of Schools). n.d. "Success Express." http://nneschools.org/success-express/.

Padres & Jóvenes Unidos. 2013. *Padres and Jóvenes Unidos Board Candidate Questionnaire*, *Fall 2013*. http://www.padresunidos.org/dps-school-board-voter-information-2013-elections.

———. n.d. *Our Demand: Build the Success Express in SW Denver*.

Poppen, Julie. 2013. "Transportation Change Coming to West Campus." *EdNews Colorado*, March 3. http://www.ednewscolorado.org/news/transportation-changes-coming-to-west-campus.

Portee, Nicole. 2013. Personal communication, October 24.

Robles, Yesenia. 2011. "Denver Public Schools Shuttle Buses Will Cover All of Northeast Region." *The Denver Post*, June 5.

Teske, Paul, Fitzpatrick, Jody, and Tracey O'Brien. 2009. Drivers of Choice: Parents, Transportation and School Choice. Seattle, WA: Center on Reinventing Public Education, University of Washington Bothell.

ACKNOWLEDGMENTS

Thank you to those individuals who graciously contributed their time and experiences through interviews and discussions about the Success Express program, including:

Meghan Carrier, Parent Engagement Organizer, Together Colorado
Marissa Ferrari, Director of Marketing, Denver Public Schools
Pauline Gervais, Former Executive Director, DPS Transportation Department
Pam Martinez, Co-Executive Director, Padres & Jóvenes Unidos
Felicia Michael, Transportation Communications Specialist, DPS Transportation Department
Nola Miguel, Council Aide, City and County of Denver
Miguel Oaxaca, Board Member, Together Colorado
Nicole Portee, Executive Director, DPS Transportation Department

We also thank Allison Tung, a doctoral student at the University of Colorado Denver, for her outstanding research support.

ABOUT THE AUTHORS

Todd L. Ely is an assistant professor at the School of Public Affairs at the University of Colorado Denver. His research and teaching focus is on the financing of state and local public services, education finance and policy, and public and nonprofit financial management.

Paul Teske is dean and distinguished professor at the School of Public Affairs at the University of Colorado Denver. His research is centered on education policy, regulatory policy, and urban policy. He has written books and articles on urban location choices, school choice, incentive-based teacher pay plans, and related education topics.

Mile High Connects is a broad partnership of organizations from the private, public, and nonprofit sectors that are committed to increasing access to housing choices, good jobs, quality schools, and essential services via public transit. By increasing resources, influencing policy, working with residents, and leveraging the current and expanding metro-Denver transit system, Mile High Connects will use transit to promote a vital region full of opportunity for everyone. Mile High Connects' mission is to ensure that the metro-Denver regional transit system fosters communities that offer all residents the opportunity for a high quality of life.

APPENDIX

TABLE A1: *Success Express and Attendance and Truancy Outcomes*

	(1)	(2)
	Attendance Rate (fraction)	**Truancy Rate (fraction)**
Success Express (1,0)	0.014***	–0.013***
	(0.005)	(0.005)
Charter School (1,0)	0.022**	–0.015
	(0.011)	(0.009)
Innovation School (1,0)	0.002	–0.003
	(0.007)	(0.006)
Elementary School (1,0)	0.059***	–0.050***
	(0.011)	(0.009)
Middle School (1,0)	0.048***	–0.049***
	(0.012)	(0.010)
Fall Enrollment (natural logarithm)	0.022***	–0.017***
	(0.008)	(0.006)
African-American Students (fraction)	-0.072***	0.087***
	(0.015)	(0.014)
Hispanic Students (fraction)	-0.042***	0.048***
	(0.008)	(0.006)
2010–11 School Year (1,0)	0.005**	–0.003**
	(0.002)	(0.002)
2011–12 School Year (1,0)	0.005*	–0.001
	(0.003)	(0.003)
2012–13 School Year (1,0)	0.002	–0.001
	(0.003)	(0.003)
Constant	0.773***	0.148***
	(0.057)	(0.044)
Observations	633	633
R-squared	0.410	0.428
Adj. R-squared	0.400	0.418

Note: Results are nearly identical with the inclusion of the fraction of students qualified for the free and reduced lunch program, but the variable is omitted due to its high collinearity with the Hispanic fraction of students. Limiting the sample to only years where Success Express was operational results in a slightly increased magnitude of the Success Express coefficient. Clustered-robust standard errors (at the school level) reported in parentheses. *** p<0.01, ** p<0.05, * p<0.10

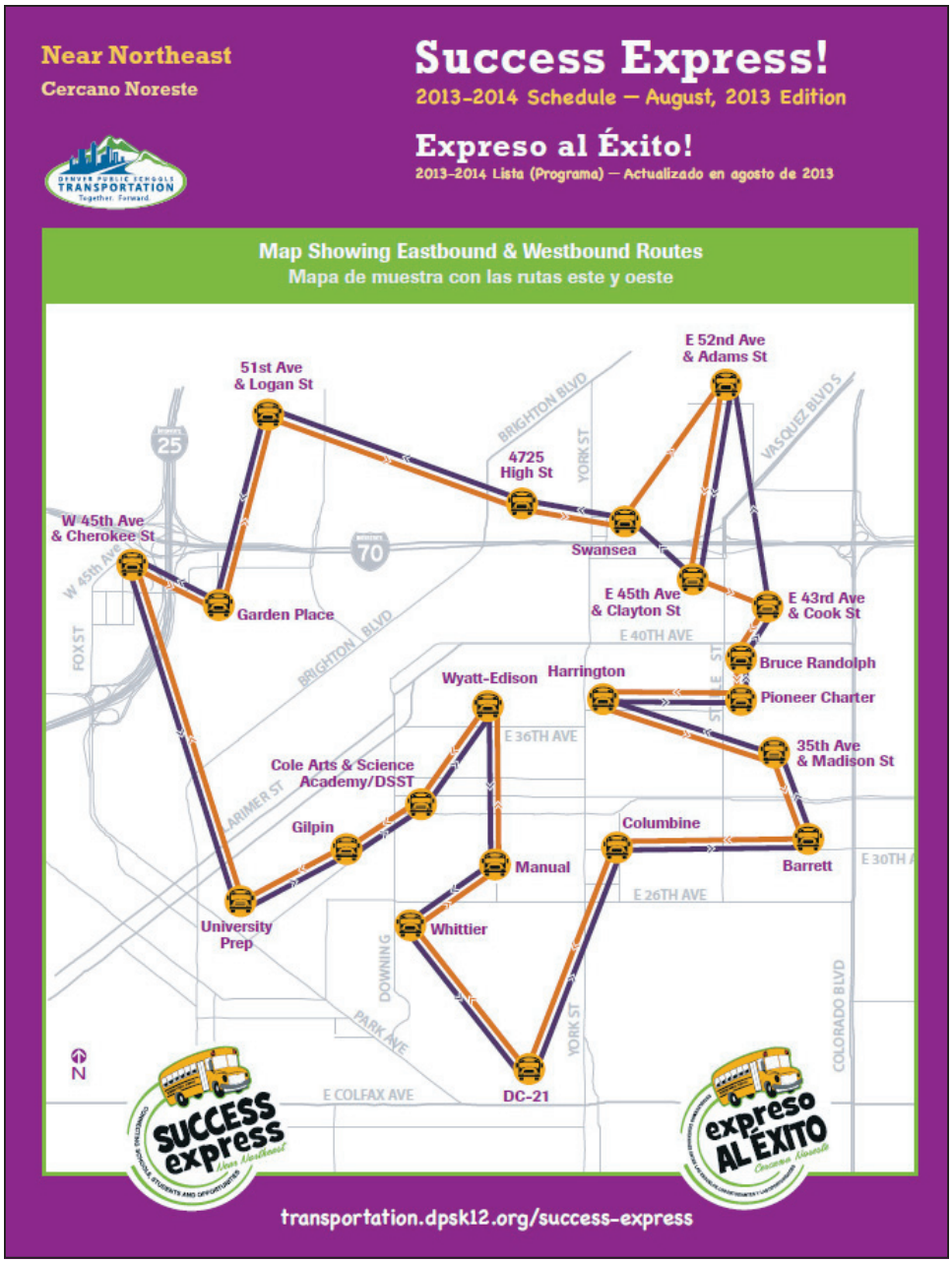

EXHIBIT A1: *Success Express Near Northeast Route Map and How To Read "Success Express" Schedule, 2013–14 School Year*

How To Read "Success Express" Schedule

Cómo leer el horario del "Expreso al Éxito"

It is important that you and your student know the bus route he/she will utilize at all times.
Es importante que usted y su estudiante conozcan la ruta del autobús que éste último utilizará regularmente.

Morning/AM Schedule – Matutino/AM

Orange Line – AM / Línea anaranjado – AM

	Orange Line 1	Orange Line 2	Orange Line 3	Orange Line 4	Orange Line 5
W 45th Ave & Cherokee St	8:15 am	7:29 am	7:48 am	7:03 am	6:38 am
Garden Place	8:18 am	7:32 am	7:51 am	7:06 am	6:41 am
51st Ave & Logan St (N	6:32 am	7:38 am	–	7:12 am	6:47 am
4725		7:46 am	–		
Swa		7:50 am	–		
E 52nd Ave & Adams St	6:50 am	7:56 am	6:30		
E 45th Ave & Clayton St	6:55 am	8:01 am	6:35 am		
E 43rd Ave & Cook St	6:58 am	8:04 am	6:39 am		
Bruce Randolph	7:01 am	8:07 am	6:41 am		
Pioneer Charter	7:04 am	–	6:44 am		
Han		30 am	6:49 am		
E 35th Ave		35 am	6:54 am	7:54 am	7:29 am
Barrett		0:40 am	6:59 am		
Columbine	7:25 am	6:46 am	7:05 am		
DC-21			3 am		

Step 1: Locate your student's school of attendance for the 2013–2014 school year.

Paso 1: Ubique la escuela a la que asistirá su estudiante durante el año escolar 2013–2014.

Step 2: Read the schedule from left to right to determine what time your student must arrive at school.

Paso 2: Lea el horario de izquierda a derecha para determinar la hora en la que su estudiante debe llegar a la escuela.

Step 3: Locate the stop nearest to your home where you would like your student to depart from.

Paso 3: Ubique la parada escolar más cercana a su domicilio de la que quiere que salga su estudiante.

Step 4: Read the schedule from left to right to determine what time your student must catch the bus to arrive to school on time. Plan to arrive at your "AM Pick-Up Location" 10 minutes early.

Paso 4: Lea el horario de izquierda a derecha a fin de averiguar la hora en la que su estudiante debe tomar el autobús escolar para llegar puntualmente a la escuela. Por la mañana, tenga previsto llegar a la parada de recogida 10 minutos antes.

Final Step: Determine what bus line the student must ride (example: Orange 2 or Purple 1).

Último paso: Determine en qué línea de autobús debe viajar el estudiante (ejemplo: anaranjado 2 o morado 1).

HELPFUL HINT: If a ride time is too long, or not possible on one route, follow steps 1 through 4 in the other direction to locate the most efficient route for your student.

SUGERENCIA PRÁCTICA: Si el viaje en autobús es muy largo o si no es posible hacerlo en una sola ruta, siga los pasos del 1 al 4 en la dirección opuesta a fin de ubicar la ruta más eficaz para su estudiante.

Times posted reflect the expected time the bus should depart from the bus stop during good weather. Inclement weather or traffic congestion may cause the route to run later than the posted time. We ask that all students be at the bus stop 10 minutes before the scheduled pick-up time to avoid missing the bus. The school bus is on a tight and safe schedule.

Los horarios publicados reflejan la hora en la que se anticipa que el autobús salga de la parada en condiciones climáticas normales. Los horarios publicados de los autobuses escolares pueden sufrir un retraso debido al mal tiempo o la congestión de tránsito. Pedimos a todos los estudiantes que estén en la parada escolar 10 minutos antes del horario programado de salida para no perder el autobús. El autobús escolar opera bajo un horario estricto y seguro.

DENVER PUBLIC SCHOOLS TRANSPORTATION Together. Forward.

EXHIBIT A1: *(Continued)*

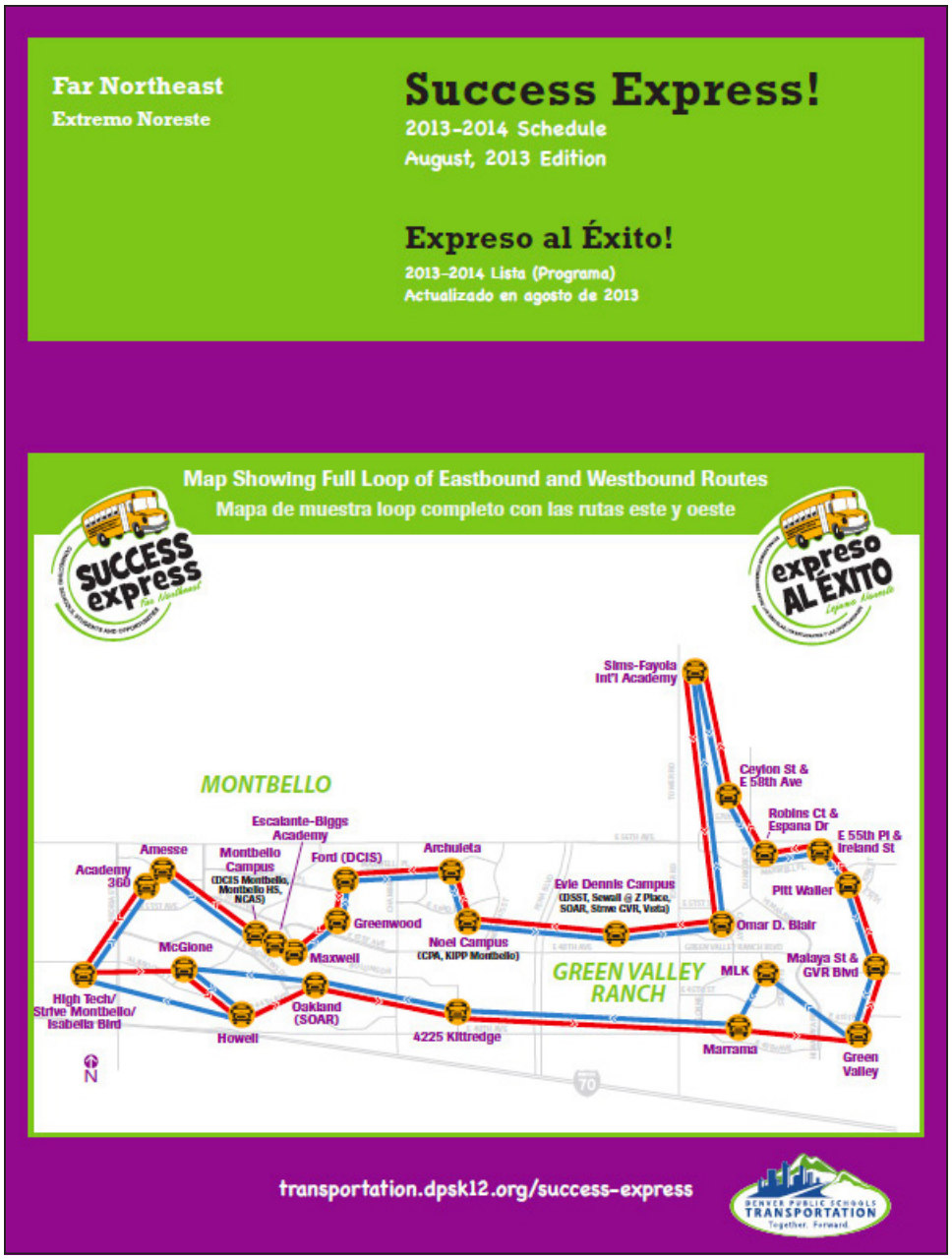

EXHIBIT A2: *Success Express Far Northeast Route Map, 2013–14 School Year*