



**OPERATIONAL PLAN**

# Operational Plan for the Traveler Dedicated Routing System (TDRS)

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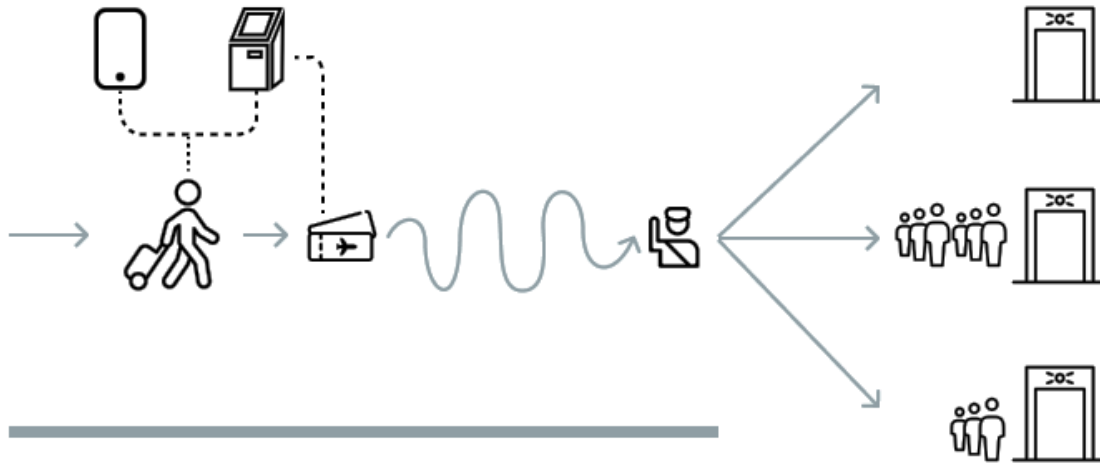
**EXECUTIVE SUMMARY**

The Traveler Dedicated Routing System would improve security by streamlining the screening experience for air travelers needing special accommodations, speeding the overall flow of all travelers through airport security checkpoints. This operational plan gives more detail on how the Transportation Security Administration (TSA) could implement this routing system.

**BACKGROUND AND CONCEPT**

TSA Customer Service has identified a variety of air travelers who need special accommodations when passing through a security checkpoint.<sup>1</sup> These include travelers with disabilities or medical conditions, those traveling with medicines, those with religious items, and travelers who have difficulty communicating in English, among others.

However, most special accommodations travelers often go through the same queuing process as all other passengers. Their needs are discovered at a checkpoint or intake queue in an ad hoc manner that can generate confusion, congestion, and delay. As illustrated below (Figure 1), not only do the processing backlogs that can form because of ad hoc special accommodation requests have a negative impact on the traveler experience, but they can also result in elevated security risks due to scanning by inexperienced or overwhelmed personnel, especially during high volume, peak periods.<sup>2</sup> The Appendix gives additional information on the current passenger experience.



Current State of TSA's Security Process	
Current State for the Traveler	Current State for the TSA
<i>Confusing as to which checkpoint to go to</i>	<i>Need to be reactive to all accommodation requests at all checkpoints</i>
<i>Potentially hassle in accommodation request at time of arrival at checkpoint</i>	<i>Need to staff 'traffic manager' to respond to 'special accommodation' in-line, in 'real-time' creating disruptions, uneven passenger experience, and potential delays due to inexperienced agents or lack of specialized assistance needed</i>

Figure 1: Current airport security journey

In the [accompanying memo](#), we propose the creation of a Traveler Dedicated Routing System (TDRS) that would intervene on behalf of passengers needing special accommodations before they enter the general security intake queue. TDRS would prompt these travelers to self-identify as part of the check-in process, and then guide them to the extra support they need at the airport. By addressing special accommodation requests proactively, TDRS would enhance airport security by decreasing congestion at screening checkpoints.

## PILOT AND NATIONWIDE LAUNCH

We recommend that TDRS be implemented in 2 phases: a limited pilot, followed by a nationwide launch to be accompanied by one or more enhancements, as described below.

### Phase 1: Improving the Traveler Experience

For the pilot, we propose that TDRS functionality be limited to creating the opportunity for travelers to request special screenings or accommodations as part of the check-in process. TDRS would process accommodation requests via a new “Special Accommodation” screen (Figure 2) added to the check-in kiosk following or preceding the mandatory TSA security disclosure screen(s). For support staff (skycaps, airline customer service representatives, and/or TSA agents), TDRS would also include accommodation options added to their administrative screens so they can view or initiate requests on behalf of the traveler.

The figure displays two screenshots of an AmericaAir check-in kiosk interface. The left screenshot shows the 'ADDITIONAL ACCOMMODATION REQUESTS' screen, which includes sections for 'TRAVELING WITH YOUTH', 'SPECIAL ASSISTANCE NEEDS', 'SPECIAL SCANNING', 'SPECIAL EQUIPMENT', and 'ADDITIONAL CONSIDERATIONS'. The right screenshot shows the 'SUMMARY' screen, which displays the message: 'You have been checked-in. Please drop your bags at baggage counter and follow the TSA Cares signs to your security checkpoint.' Below this, it shows 'Selected Accommodations' as '#GRP #PK' and a 'Finish' button.

Figure 2: Sample enhanced passenger check-in screens using TDRS codes

We recommend that TSA, and potentially the TSA Innovation Task Force, identify a single airline at a single terminal of a major airport where the customer variation and needs are broad, like Los Angeles International or Seattle-Tacoma International, as a host for the program. TSA should also convene a working group representing key stakeholders, such as airlines, airport personnel, and organizations representing communities needing special accommodations. This group should create success and performance metrics, define operational systems requirements, and identify data sharing and privacy considerations. Key stakeholders would also be requested to identify an appropriate pilot site within the airport, intake queue location options, peak travel days/times, and appropriate airport, airline, and TSA personnel to participate in the pilot.

As illustrated in Figure 3, using sample designations similar to TSA PreCheck for ease of adoption into boarding pass designs, TDRS would “tag” the traveler’s boarding pass with new codes to inform passengers and agents of accommodation requests (e.g., PK for products/packages, GRP for family/groups for accommodation categories). TSA agents and staff of airlines and airports should be trained to recognize the new codes on the enhanced boarding pass to route special accommodations travelers to the appropriate queue or resource for their support.<sup>4</sup>

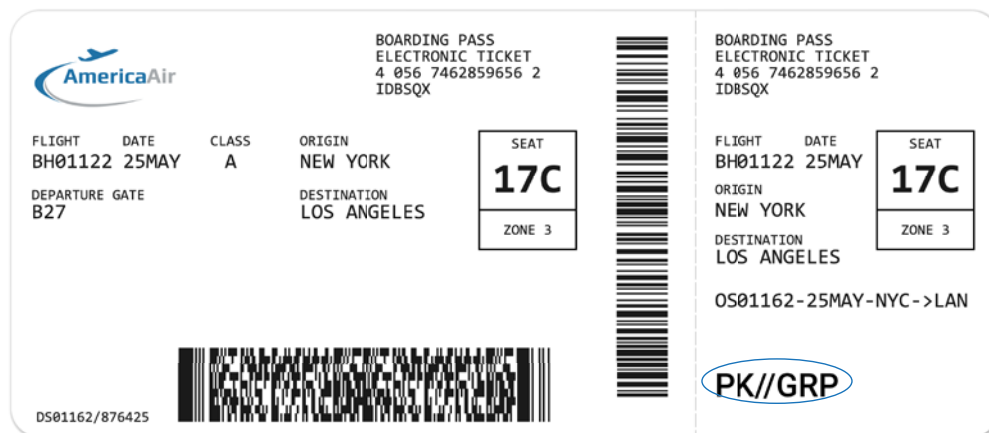
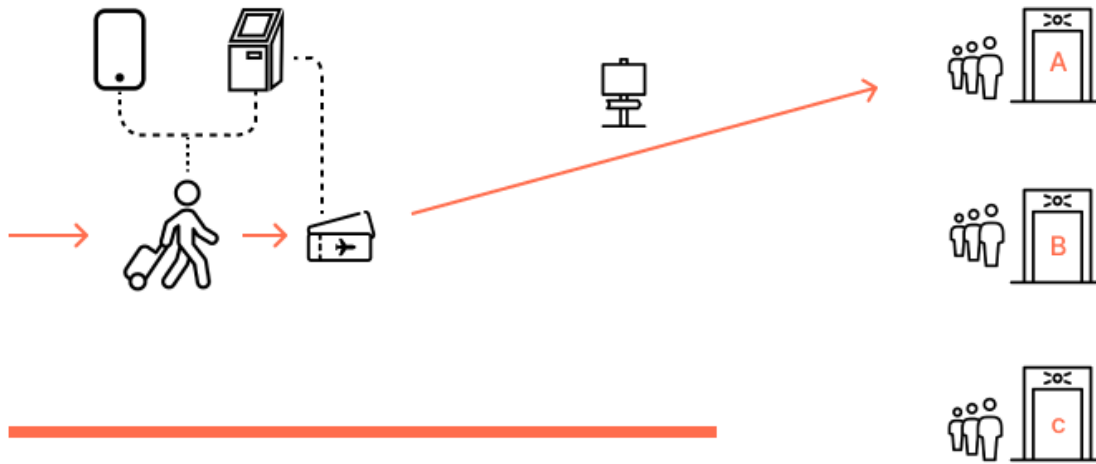


Figure 3: Sample enhanced paper boarding passes displaying sample TDRS codes

Additionally, we propose adding portable configurable signage similar to TSA PreCheck routing signs, in order to assist in routing special accommodation passengers appropriately (see Figure 4).



Pilot Enhancements to Current System	
Changes for the Traveler	Changes for TSA
<i>Ability to request accommodation on-demand</i>	<i>Ability to assign different need personas to different checkpoints</i>
<i>More direct routing to appropriate checkpoint</i>	<i>Reduced need for “traffic manager” role (beyond ID check)</i>
<i>Less congestion, distributed queuing</i>	<i>Ability to place senior TSA staff where they are the most needed</i>

Figure 4: Full TDRS Phase 1 check-in process

For the Phase 1 pilot, we recommend excluding from the TDRS process travelers who check in online and do not require baggage or counter services. They will continue to be handled at the checkpoint intake queue until TSA decides to proceed with Phase 2 of this proposal. We recommend excluding these groups from the TDRS process because adding options to online check-in requires programming by each airline.

## TIMELINE AND OPERATIONALIZATION

We recommend a 6-month pilot program (3 months to build, 3 months for testing and assessment). See Figure 5.

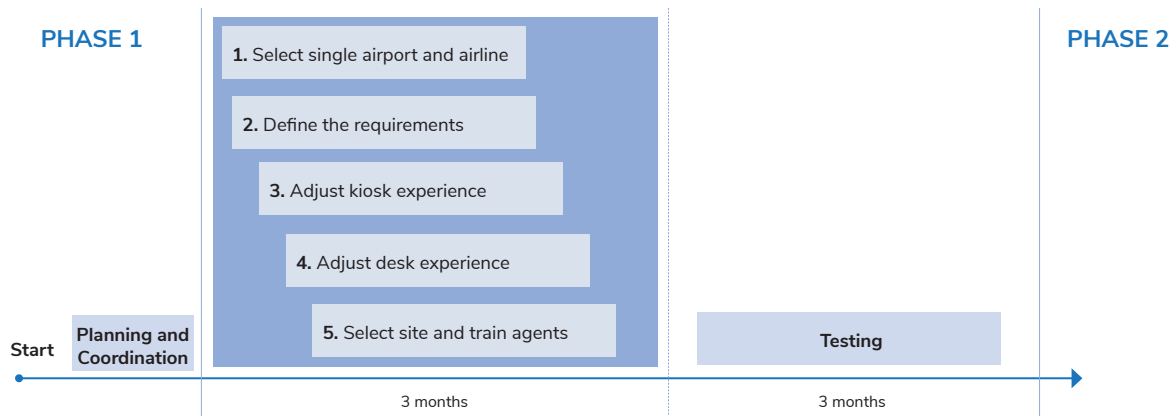


Figure 5: Proposed Phase 1 Timeline

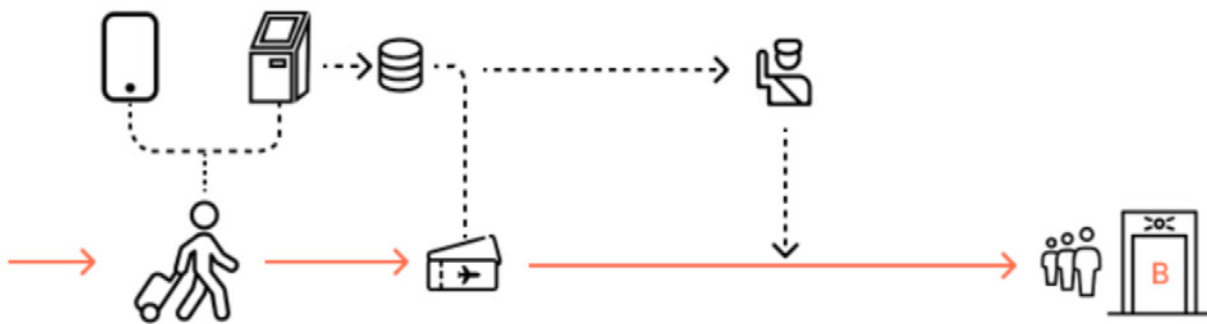
Such a pilot would cost about \$93,200. The bulk of the budget would go toward software development, with additional expenses for project management, training, marketing, and staff. For the pilot and Phase 2 costs, funding and operational support may be obtained in partnership with the TSA Innovation Task Force or partner airlines and airport oversight bodies.

Table 1: Proposed Phase 1 Budget

Resource	Duration	Cost	Justification
Program Management	3 months	\$4,200	A single Program Manager who does initial coordination with TSA, airlines and other groups, and manages the overall effort (5% of total cost for Phase 1)
Training	1 month	\$5,000	Enhancement of existing training material enabling TSA passenger support specialists (PSS), screeners, and airline agents to identify and execute protocol related to special accommodations
TSA Staff Augmentation	3 months	\$15,000	Additional TSA PSS hours across the pilot (2 agents, half-time dedicated for the 3-month pilot)
Marketing/Advocacy	1 month	\$8,000	Initial investment to get communications built out and ensure awareness of the system among airlines and customers
Airline check-in system adjustments	3 month	\$60,000	Changes to check-in software systems, boarding passes, etc. (Project Manager, Designer, 2 Developers across 3 months, some full-time, some part-time staff)
In-airport signage and adjustment to existing queues	–	\$1,000	Additional signage as needed; may be minimal

## Phase 2: Further Enhancements

Upon the success of the initial phase, we propose enhancement of TDRS to further improve traveler experience by using special accommodation data inputs combined with other TSA and airport data to route passengers into security queues. TDRS would integrate data from the airline check-in process, TSA queue wait times, and traveler satisfaction with accommodation data codes to route passengers to the best queues in real time. We anticipate that in this phase, TDRS would further reduce non-sterile area congestion without disrupting TSA security protocols.



**Traveller Dynamic Routing System - Blue Sky**

*Figure 6: Dedicated routing under TDRS Phase 2*

The blue-sky vision of TDRS will include a data service, in which travelers are dynamically routed via a machine-learning-enabled shorting system, to the checkpoint appropriate in-time for the request. The TSA will be alerted via an internal queueing system to upcoming accommodation requests, and will be able to anticipate accordingly.

In conjunction with the dedicated routing system, we propose that rollout of TDRS also include the following “blue sky measures” following the successful conclusion of Phase 1:

- 1. Work with airlines to enable passengers to add the Special Accommodations webpage to airline profiles.** Similar to systems to add a Known Traveler Number, enabling this feature in the online check-in process would enable travelers to self-identify their needs far in advance of travel or as

a permanent designation.

2. **Integrate TDRS with TSA Cares.** The TDRS and TSA Cares reservation systems could ultimately work as a streamlined system to identify special accommodations, reserve necessary assistance, and guide travelers to appropriate resources, personnel, and dedicated queues.
3. **Aggregate TDRS, TSA Cares, MyTSA App, and other data to inform TSA operations.** The volume of special accommodations requests can be leveraged to inform a number of TSA decisions, such as travel queue timing indicators, staffing dedicated to special accommodations requests, and queue footprints.
4. **Create mobile alerts at check-in within MyTSA and or airline mobile apps to notify travelers of queue availability and special accommodation handling information.** These alerts can make travelers aware of recommended timing associated with special accommodations queues (e.g., arrive at the airport by 10:30 for low traffic checkpoint processing). This feature could provide additional incentive for passengers to engage with the TSA Cares process to optimize their travel experience and enable virtual traffic smoothing (Figure 7).

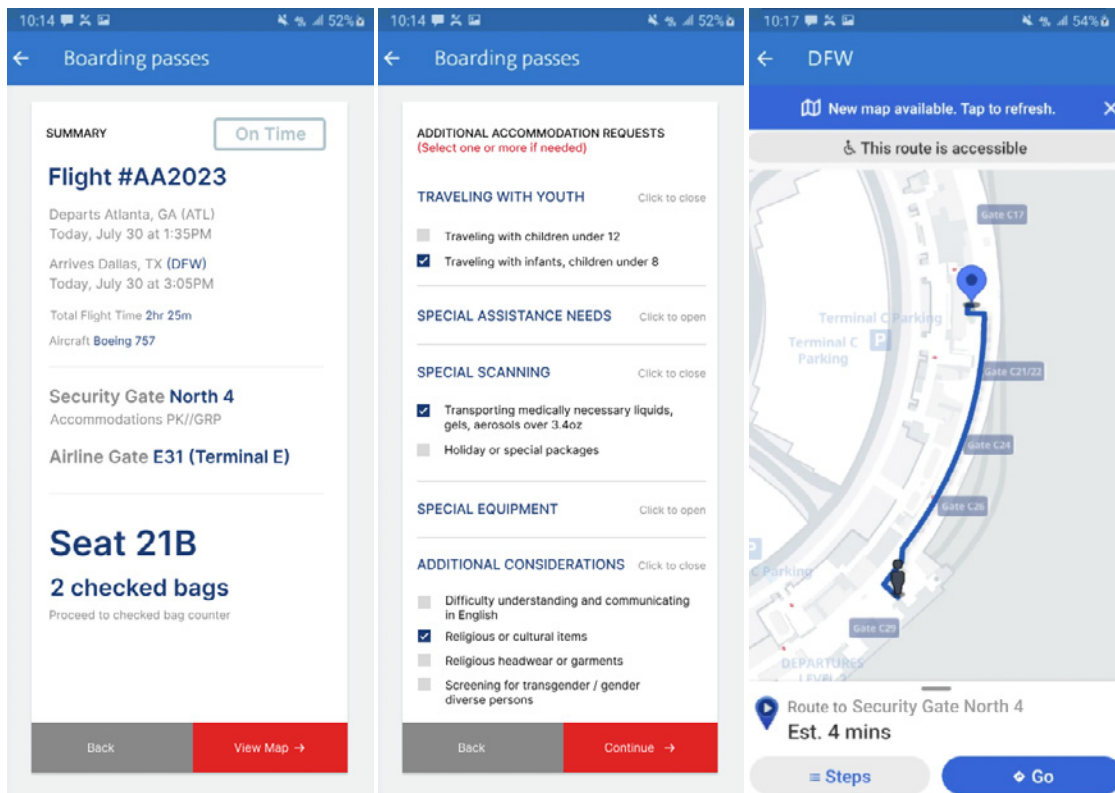




Figure 7: TDRS with MyTSA data integration would notify and route travelers based on accommodations selected and airport conditions

- ▶ **Design an administrative mobile app to enable “roving” support staff.** These mobile officers would be available to special assistance requesters wherever they are in the airport check-in process to address their needs immediately, and would be able to view, take action on, and initiate requests on behalf of the traveler. This would further enhance the traveler experience by meeting passengers who require special accommodations where they are, without compromising the efficacy of security screening.
- ▶ **Provide means for traveler feedback.** This could take the form of mobile alerts on the MyTSA app, post-process check-in screens, or post-security checkpoint surveys. Feedback would enhance TSA’s ability to capture traveler sentiment and continue adjusting security checkpoints.

## TIMELINE AND OPERATIONALIZATION

As shown in Figure 8, we propose a 6-month pilot for Phase 2, including development and testing of the dedicated routing features.

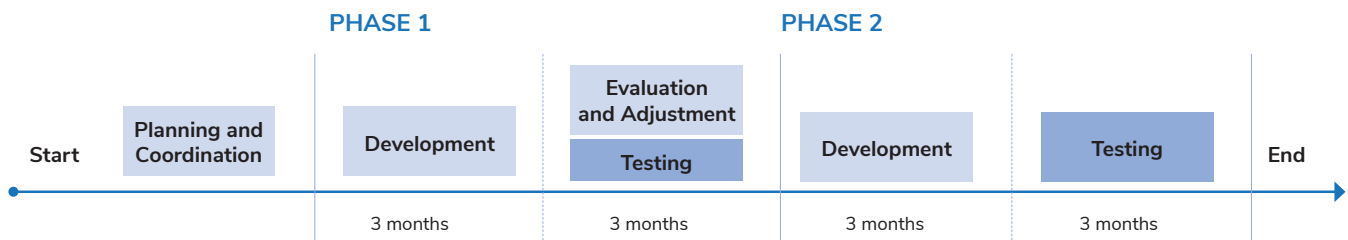


Figure 8: Phase 1 and Phase 2 Timeline

Piloting Phase 2 would cost just over \$300,000, the bulk of which would be spent on the technical build for the dedicated routing system.

**Table 2: Proposed Phase 2 Budget**

Resource	Duration	Cost	Notes
Program Management	6 months	\$8,000	A single Program Manager who does initial coordination with TSA, airlines and other groups, and manages the overall effort
Technical Build	6 months	\$250,000	2 Engineers, 1 Product Developer, and 1 System Designer to build the Traveler Dedicated Routing System (\$65/hour for 6 months)
Training	1 month	\$8,000	Enhancement of existing training material enabling TSA screeners and airline agents to identify and execute protocol related to special accommodations
Staff Augmentation	3 months	\$15,000	2 additional TSA screeners who are trained regarding specific special accommodations
Marketing/Advocacy	3 months	\$24,000	Initial investment to get the communications built and ensure awareness of the program among airlines and travelers

## CONCLUSION

TDRS presents an opportunity to meet the traveler where they are with minimal disruption to existing processes, no major changes to training for personnel already familiar with boarding pass review protocols, and flexible, dedicated queue configuration opportunities based on the volume of accommodation requests submitted and airport space available. We expect that by prompting travelers to self-identify their needs in advance of entering security checkpoint queues, TDRS will reduce the burden of addressing special accommodations at security checkpoints and speed security screening for all travelers.

## ENDNOTES

- 1 For a full set of situations, see “Special Procedures: Disabilities and Medical Conditions,” Transportation Security Administration, accessed May 22, 2023, <https://www.tsa.gov/travel/special-procedures>.
- 2 Interview with Ian Law, Chief Digital Transformation Officer of Los Angeles World Airports, February 15, 2023; see Appendix for more details.
- 3 Note: These are concept illustrations only. Stakeholders should tailor the administrative user interface as informed by user feedback.
- 4 We recommend using existing TSA, airport, and airline response teams to support accommodations requested to allow for more flexible staffing options.

## **APPENDIX: CURRENT PASSENGER EXPERIENCE**

Passengers arrive at the airport to check in per airline, airport, and TSA requirements. Once checked in, travelers are routed to the designated security checkpoint(s) in the airline's departure terminal for screening. Currently, all passengers are funneled into the multiple security intake queues (general, TSA PreCheck and CLEAR) for ID processing by TSA officers, and then routed to split queues for general or TSA PreCheck, where available, which may trigger a special accommodation event whenever the passenger presents in the security checkpoint queue or via "special request" by a TSA agent. When special accommodations are requested and addressed at the checkpoint, backlogs can form, creating screening delays and potentially elevated security risks due to scanning by inexperienced or overwhelmed personnel especially during high volume, peak periods.

Passengers with SSSS (secondary security screening selection) designations are taken to a separate area for additional screening. The TSA PreCheck designation provides an expedited security screening process (where available) with dedicated security line(s) that are faster and simpler than standard lines. (Global Entry, SENTRI, and NEXUS may also include TSA PreCheck Trusted Traveler status and routing.)