# Researching Environmental Wayfinding Design at Nashville International Airport

## SIGNAGE PROBLEMS

In airports, you need to be able to distinguish where you are going quickly because time is always of the essence. As we observed the signs in the Nashville International Airport, that was not the case. There are many signs that are not aligned correctly, nor are they presenting information in a clear and cohesive manner. The signs blend in with the environment and can be difficult to read with so much information gathered in such a small area. In addition, there is not a color coding system to distinguish areas from one another, which can lead to a delayed absorption of information leading to misinformed travellers.

## SIGNAGE SOLUTIONS

### VISUALS.
Creation of entirely new signage to give the area a modern flair yet sticking true to the country music/tourism of the Nashville area. Airport users have visual and cognitive limitations that impact the design of signs and should be considered to ensure signs are effective. Effective signs require human factors expertise in development and testing to meet the following requirements:

### CONSPICUOUS.
The color and light on the signs contrast with their background so they are easily detected from the sign's surroundings. Signs should also be located where users expect to find them.

### CONCISE.
Passengers are unlikely to spend more than a few seconds trying to extract information from a sign. Information presented at any one location should be selected in accordance with the destination hierarchy and provided on a need-to-know basis.
Hierarchy plays a very important role in wayfinding signage. In order to deal with the flow of the airport, gates will always be at the top of the hierarchy, as it is the most important directional information inside the airport. Second, will be directions on transportation locations. Next, will be restrooms, then dining, then misc./general information. This hierarchy is in the best interest of the travelers and is organized by importance.

### COMPREHENSIBLE.
Although the meaning of a sign may be clear to the designer, it may not be clear to airport users. To ensure comprehension of a symbol signs and many text signs, evaluation with representative users is required. Symbols may be in wide use, yet poorly understood. For example, various arrow shapes are used in directions "straight ahead" versus "go up one level" may be confused. Comprehension of map display signs is improved if they are oriented to be read from the same perspective as the viewer.

### LEGIBLE.
Signs should be comfortably legible at the distance at which the user is first likely to look for them. A user with 20/20 vision can barely resolve sign information at 58 feet away for each inch of letter height. A more reasonable expectation, given a range of visual capabilities and non-optimal contrasts or lighting, would be 40 feet for each inch of letter height. The MUTCD recommends sing 30 feet of legibility distance for each inch of letter height as a design goal. To be comfortably legible, text needs to be much larger than this. For complex displays (e.g., terminal maps), the use of the sign by several users at once should be considered, so that the text is comfortably legibly from the distance a user is likely to stand.

### LOCATION.
The various pathways to reach an area must be considered. There can be several entrance doors to a terminal and check-in counter information should be visible from each, with a minimum amount of walking and searching for it. Signs must be located at decision points where the user has the option of taking different paths. Signing on roadways is much more challenging because of the speed at which the user is moving. The same requirements discussed herein apply, but information load and location of signs is much more critical.

## AUTHORS

Dustin Jackson, Amanda Kail, Kimberley McGrath, Tori Vann
Advisor: David Gallop, Assistant Professor of Design & Digital Media

(above) GRAND OLE LOBBY: Spacious central entrance hall will warmly welcome travellers with natural light and compelling airfilled views.

## OBJECTIVE

The central objective of our team's project is to evaluate the current wayfinding and signage system used to navigate the Nashville International Airport (BNA) and to create solutions for the existing problems. Using characters and principles of successful Environmental Graphic Design (EGD), our team utilized both divergent and convergent thinking in the schematic planning phase, and then progressed to produce solutions that will be tested in virutal reality by a focus group (non-design majors) to gage the success of the project.
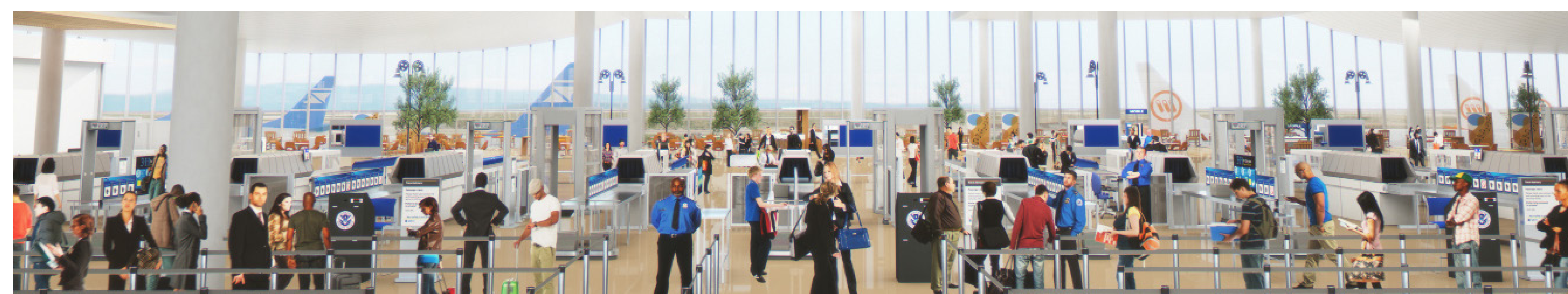
### ENVIRONMENTAL GRAPHIC DESIGN

Environmental Graphic Design involves all aspects of wayfinding and visual communication, with the goal of connecting people and place. For our research, we studied photographs of Nashville International Airport's (BNA) current wayfinding signage system that were provided to the class. By analyzing that information, we were able to determine what problems existed, and create design solutions to those problems. Using divergent thinking skills we were able to simplify BNA's wayfinding signage system, making it a more easily navigable environment for its travelers. To fix the issue of hard-to-read, cluttered, dark signage, we selected new color schemes, type faces, and materials that would better suit BNA's vision for the future.

### WHY IS ENVIRONMENTAL GRAPHIC DESIGN (EGD) IMPORTANT?

Airports are inarguable assets to the communities they belong to. They are epicenters of international culture, efficiency, connectedness, marketing, human resources, communication, and so much more. Specifically, the Nashville International Airport drew in an annual traffic of almost 11 million passengers in 2014, and the numbers are continuing to rise as does the demand for international travel and commerce.

The current wayfinding and signage system (the back bone of any decently navigable airport) is outdated and needs an upgrade. This proposal includes the collected research, data collection, creative sketching, vision casting, and practical goals for the redesign of this specific wayfinding and signage system. This is all for the hope of increasing every traveler's experience with the Nashville International Airport, and ultimately, our state.

BNA has struggled with their environmental wayfinding design and signage over the years. Using collected research, the purpose was to update the environmental graphic design system through original documentation based off of current wayfinding guidelines and standards. In this team project we are researching environmental wayfinding design and using the Nashville International Airport as a case study. The current system at the airport is outdated and has led to confusion for some of its visitors. As designers, we have developed potential ideas that could prove to be more suitable for the environment.



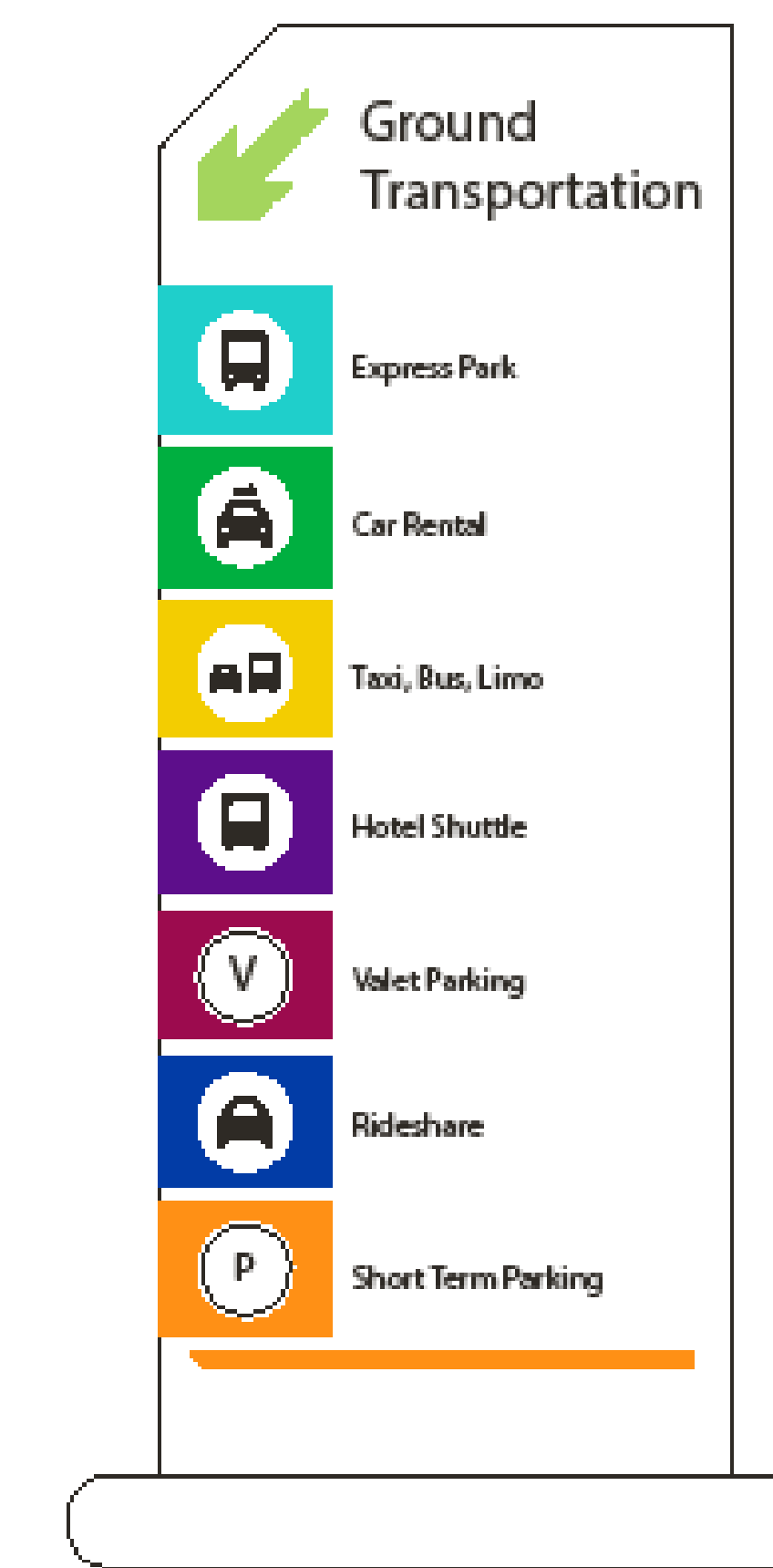### OVERVIEW OF THE INTERIOR AND EXTERIOR SIGNAGE PROBLEMS

There are two problems that are not only the common problems in the Nashville International Airport, but they are also "the-meat-and-potatoes" of environmental graphic design. Having an inconsistent design can lead to confusion and frustration as travellers navigate the space. Coupling the inconsistencies with no organization will only lead to more frustration and stress which will leave the user with complaints of a bad experience. These two problems alone are what will make or break the effectiveness of a design. Since, the BNA is severely lacking in both areas in all of their signs guiding travellers to their destinations, it has only led to design flaws.
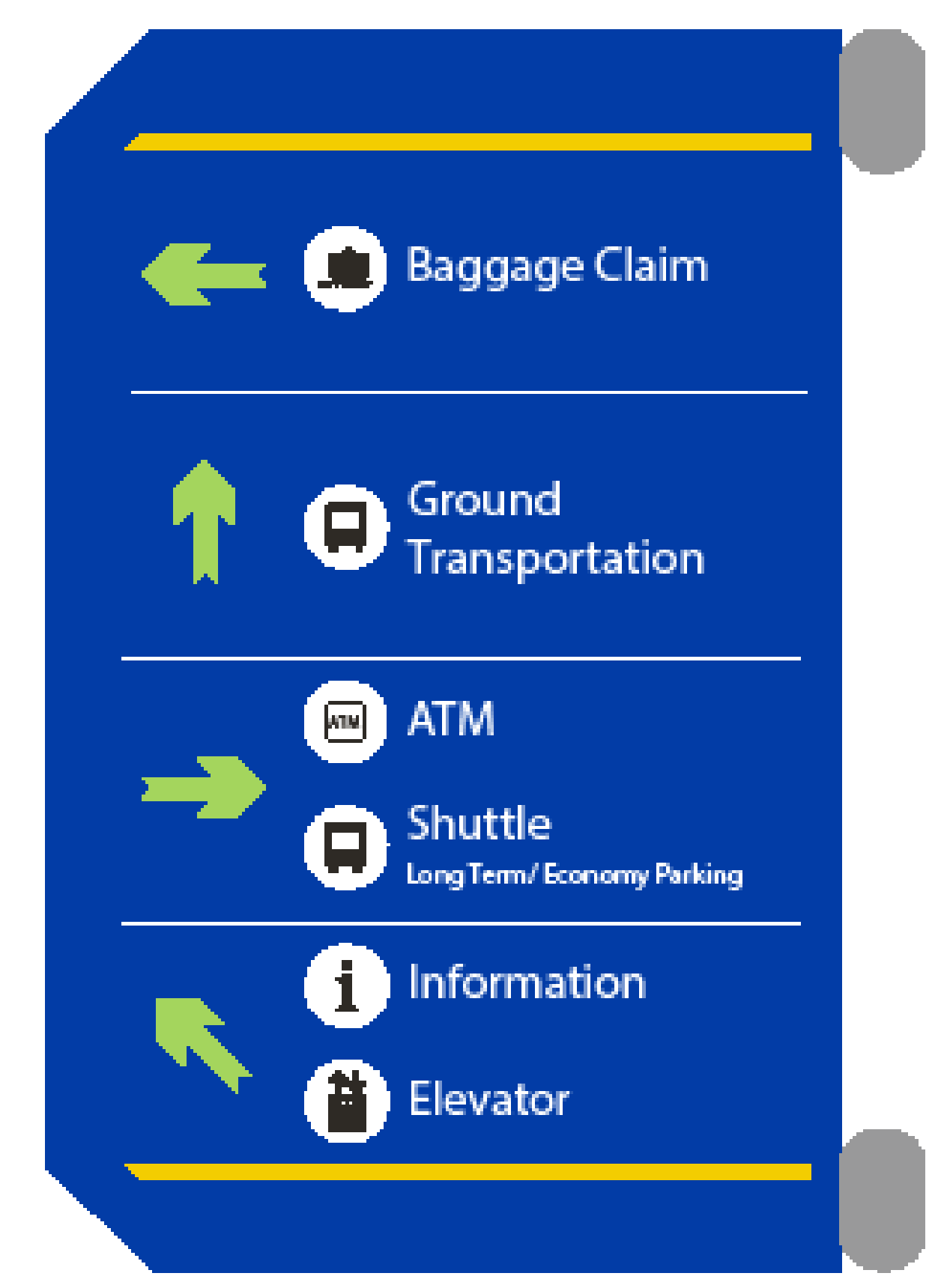
## DESIGN PROBLEMS/SOLUTIONS



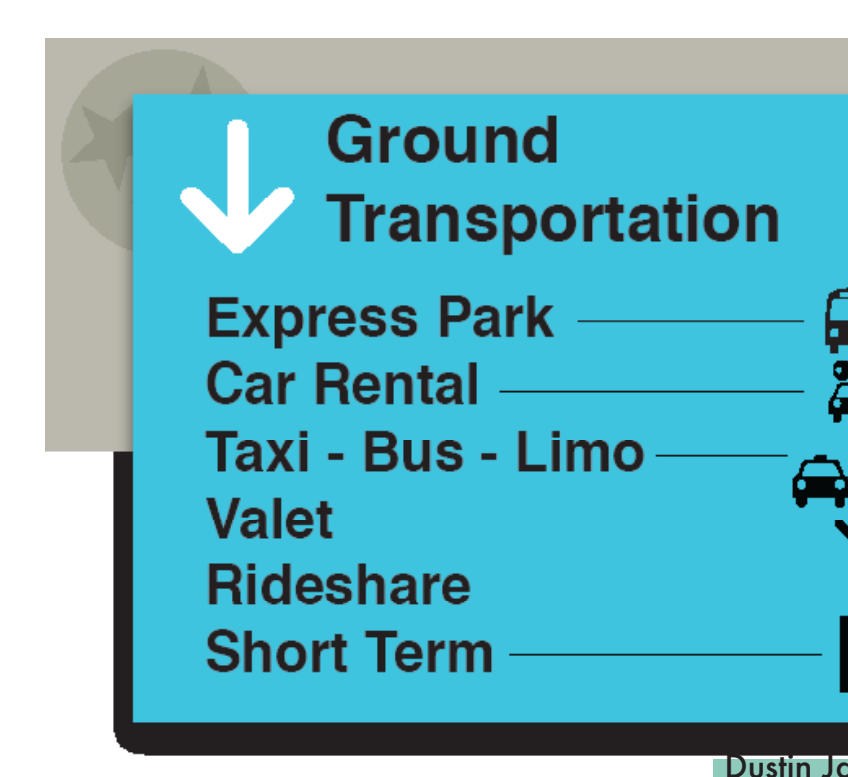### COMMON PROBLEMS FOUND THROUGHOUT SIGNAGE
- no color coding system
- signage blends into environment
- unorganized
- has no hierarchy
- too many font sizes
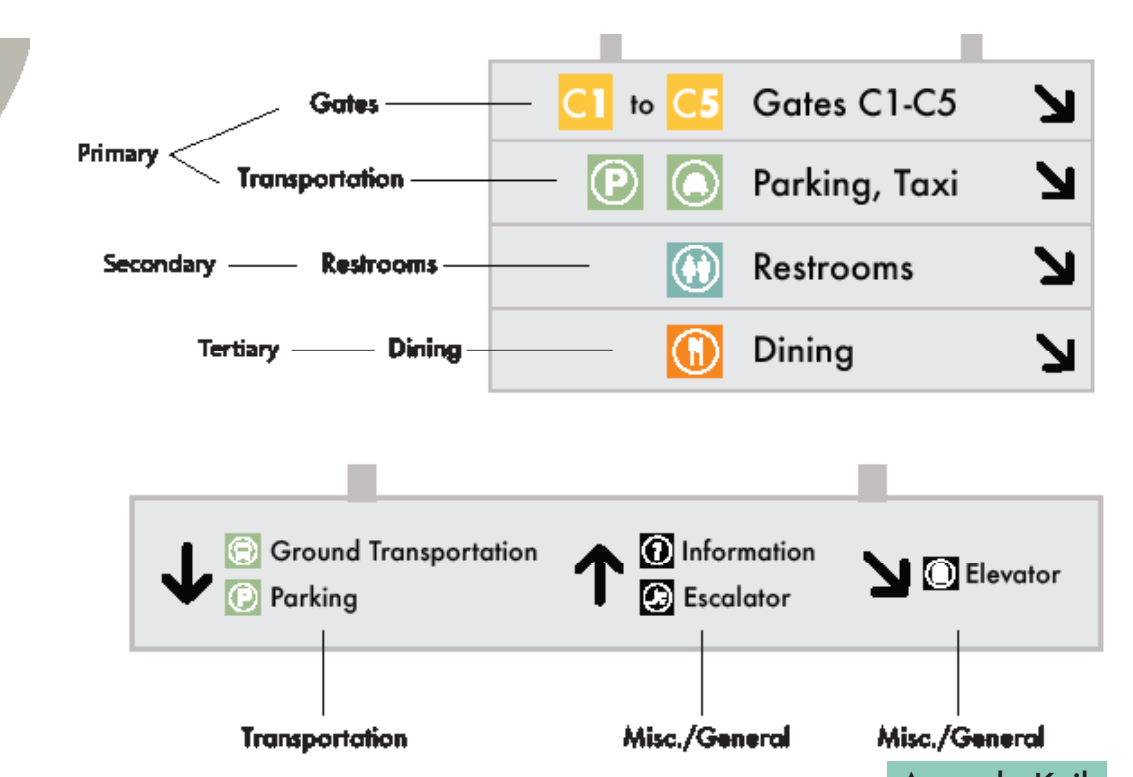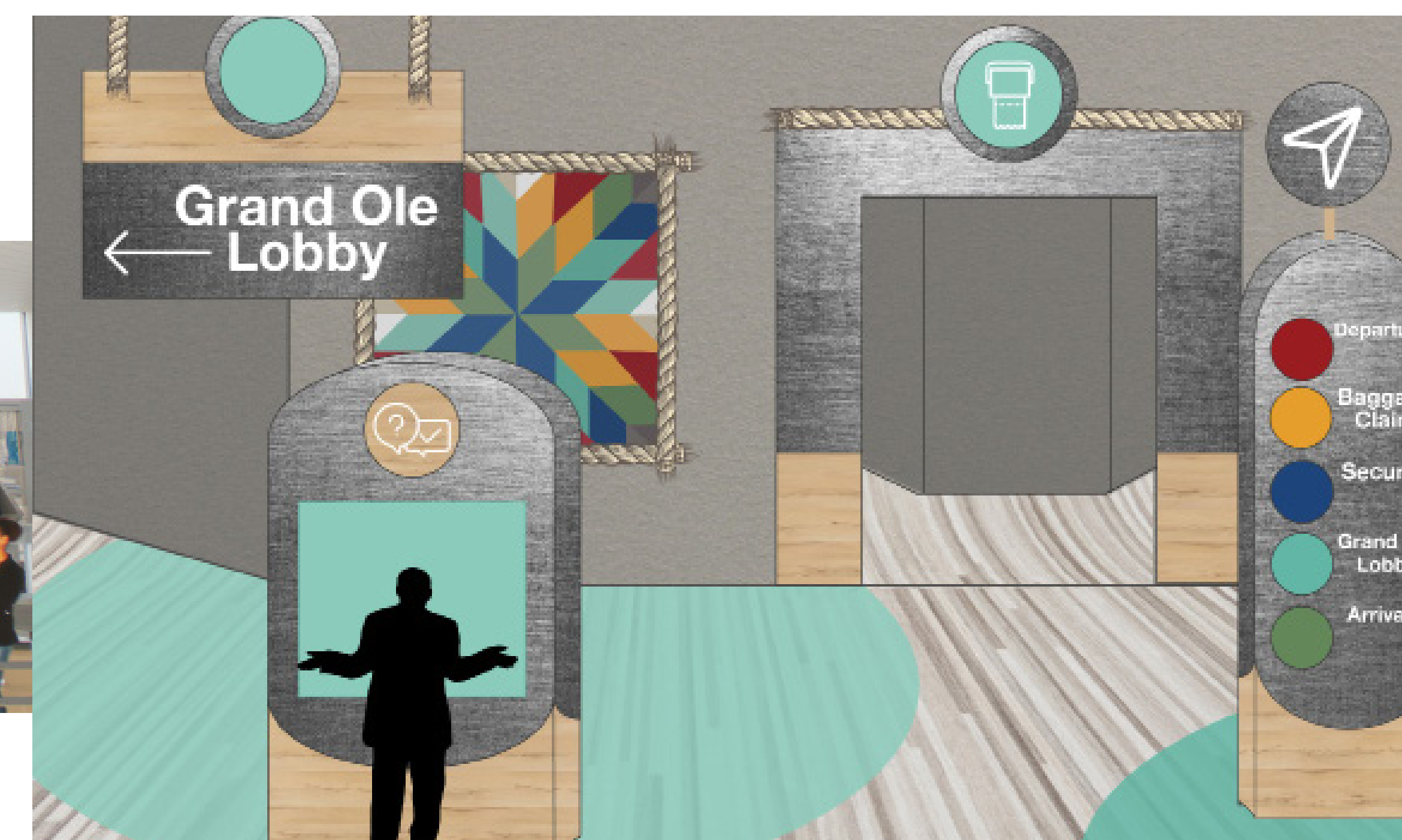- inconsistent design
- does not utilize iconography



**Ground Transportation**
- Express Park
- Car Rental
- Taxi, Bus, Limo
- Hotel Shuttle
- Valet Parking
- Rideshare
- Short Term Parking

Tori Vann



- Baggage Claim
- Ground Transportation
- ATM
- Shuttle — Long Term/Economy Parking
- Information
- Elevator

Tori Vann



**Ground Transportation**
- Express Park
- Car Rental
- Taxi - Bus - Limo
- Valet
- Rideshare
- Short Term

Dustin Jackson



Gates — C1 to C4 Gates C1-C5
Primary — Transportation — Parking, Taxi
Secondary — Restrooms — Restrooms
Tertiary — Dining — Dining

Ground Transportation / Parking — Information / Escalator — Elevator
Transportation — Misc./General — Misc./General

Amanda Kail



**Grand Ole Lobby**
- Departures
- Baggage Claim
- Security
- Grand Ole Lobby
- Arrivals

Kimberley McGrath

**Works Cited**

• Harding, James R., National Research Council . Transportation Research Board, and United States. Federal Aviation Administration. Wayfinding and Signing Guidelines for Airport Terminals and Landside. Washington, D.C.: Transportation Research Board, 2011. Print. ACRP Report; 52.
• Nashville airport plans $1.2B overhaul, including new hotel
Rau, Nate. "Nashville Airport Plans $1.2B Overhaul, including New Hotel." The Tennessean. N.p., 31 July 2016. Web. 09 Feb. 2017.
• Nashville airport breaks annual passenger record
Mutzabaugh, Ben. "Nashville Airport Breaks Annual Passenger Record." USA Today. Gannett Satellite Information Network, 22 July 2014. Web. 09 Feb. 2017.
• BNA Vision Photos/Information provided by Nashville International Airport
Signage Photos/Project Objective provided by David Gallop