

Public Transportation: PowerPoint and Activity for K-5th grades

Time- 1-2 class periods

Guiding Questions:

- What is transportation?
- What is public transportation?
- What is the history of public transportation in New York City?
- How can I ride public transportation safely?
- What is a map? How can I find my way?

Slide Notes:

Slide 2 Key information

- This slide is intended to get the conversation started in the classroom about how students travel in the city in their daily lives.
- Suggested Questions:
 - What are some different ways you travel?
 - How do you travel to go to school? To the playground? To visit a friend or family member? To the grocery store?
 - What are some of your favorite ways to travel?
 - How do you travel if you want to get somewhere close by? Far away?
- Depending on grade level you may want to share a definition of transportation as a transition. Transportation is the intentional movement of people and goods from one place to another.

Slide 3 Key information

- This slide is sharing the guiding question of the lesson plan which is about understanding what public transportation is and how students can begin to participate in and think about ways to improve public transportation.

Slide 4 Key Information

- Create a shared definition of transportation vs. public transportation

- Public transportation charges a set fare, runs on fixed routes and schedules, and is available to the public
 - Define fare- payment for transportation. In NYC we use debit/credit cards, digital wallets, or OMNY cards for most our public transportation. The fare is set at a certain amount of money to pay for the ride.
 - Define route-a path taken to get from one place to another
 - Define schedule-something (like a train arriving) at a set interval of time
 - Define public in this context- meaning anyone can use the method of transportation

Slide 5 Key Information

- Slide further outlining what public transportation is for students.
- You can highlight that it is often faster than walking, less expensive than having a personal car, and it is better for the environment because it reduces greenhouse gases, improves air quality, and reduces the amount of traffic in addition to allowing for more green spaces because there are fewer roads and parking lots.

Slide 6 Key Information

- Public Transportation first began on the water with steam powered ferries taking passengers across the East River in 1814 and on the land in 1827 with the introduction of the Omnibus, a wooden coach that could carry about twelve people and was pulled by a horse.
- There were trains that went high above the streets called elevated trains that started in 1868 before they went underground in 1904. The underground trains are called the subway.
- Today we have subways that both go underground and above the streets on tracks built long ago. If you laid out all the tracks of the New York City subway you'd have over 840 miles enough to stretch from NYC to Chicago. There are 23 different subway lines and 472 subway stations!
- On the streets there were horse-drawn buses called omnibuses, horsecars, cable cars, electrified streetcars, trolleys, and eventually motor buses like we see today. The first motorbuses had two levels and were called double-deckers.
- In today's MTA fleet there are over 6,000 buses with 238 local routes and 75 express routes.

Slides 7-9 Key Information

- Introduce the main agency that operates public transportation today in NYC and surrounding regions- the Metropolitan Transportation Authority (MTA).
- Depending on grade level you can share the public transportation was started in NYC by many different people and companies and in an effort to combine and simplify all of those different companies the Governor of New York state created the MTA.
- Today the MTA is in charge of subways, buses, and two railroads- Long Island Rail Road and Metro-North as well as some of the tunnels and bridges in the city. Over 70,000 people work for the MTA to keep New Yorkers moving throughout the city and beyond to places like Long Island, CT, and upstate New York.

Slide 10 Key Information

- This slide introduces students on ways to be a responsible public transportation user and includes helpful information on where to locate helpers. This may be a helpful introduction to independent travel for older grades.

Slide 11 Key Information

- This slide covers paying your fare and what a turnstile is so your students can learn more about how to tap and why.

Slide 12 Key Information

- To introduce concept of maps, begin by asking students if they have ever been lost and how they found their way.
- Generate a list of responses to the questions posed in the slide.

Slide 13 Key Information

- Define maps-a representation of an area of land or sea showing physical features like cities, roads, etc. Maps help people navigate places they might not know well.
- Define navigate-to plan or travel a route.

Slide 14

- This shows a time lapse video of the subway routes and shows how the subway system was built and changed over time. This is a nice primer for the transportation planner activity designed for older grades below.

Slide 15-16 Key Information

- Share with students the current MTA map of the subway system. Ask them if it looks familiar to them? Can they find where they live on this map?

Slide 17 Key Information

- Explain that to show places on a map, map makers often use symbols, colors, different kinds of lines, and something called a key. Define these terms and share some of the ways the MTA map uses these things. The MTA Map key shows lots of examples.
 - Symbol-A mark or drawing that stands in for something else like a heart drawing as a symbol of love. See if students can think of other symbols.
 - Map Key-Often found in a little box on the map. Map keys show what different lines, colors and symbols on the map mean and often show the scale of the map so you can figure out the actual distance between things.

Slide 18 Key Information

- You can now do the optional extension activity. There are two versions of this activity for different grade levels. Make your Own Maps is designed for grades K-2 and Transportation Planner is designed for grades 3-5.

Extension Activity: Make your Own Maps

Materials:

- Colored Pencils, Markers, or Crayons
- Copies of the larger neighborhood map surrounding the school for each student or blank sheets of paper
- Copies of the current subway and bus maps can be found available for download [here](#)

K-2 Grade Activity: Neighborhood maps

1. Working in Tables or small groups have students discuss the following questions:

- What are your favorite places in your neighborhood and how do you get there?

2. Introduce either the neighborhood maps you have printed or a blank sheet of paper for the activity. Hand out drawing materials. This activity is designed to be completed by individual students but could easily be modified as a group activity.

3. Explain the activity to students. They will draw symbols of their favorite places in their neighborhood and show the different ways they might get there. Examples of favorite places might be home, the grocery store, the candy shop, school and different ways to get there will be walking, riding a bike, taking a bus, or taking the subway. They will use symbols to show the place and different types of lines with different colors to show how they travel between places. Students should create a map key sharing what their symbols and different lines and colors mean. For younger students they can verbally share the meaning if they are not yet able to write out full words.

- Share Examples: Pizza shop could be a pizza slice and if you walk to get to that place, you might choose a wavy blue line because you walk there.
- Note for younger students it may be helpful to have a few symbols already made and cut out that they could glue on to their maps.

4. For students who finish early you can direct them to complete a challenge to add more to their maps: What are some places you wish were in your neighborhood? Add that to your map. Are there any ways of traveling in neighborhood that you wish were there? Add that to your map.

5. Do a pair share. Have students share their maps with the person sitting next to them.

6. Do a gallery walk so students can see all of the maps that have been created.

3-5 Grades Activity: Transportation Planning

1. Begin with a brief full class discussion on how students travel from home to school currently and what they like and don't like about their journey.

2. Working in teams or partners begin to map out and make the case for new station(s) or bus stop(s)

- Where would you want a subway station or bus stop? Why would you want a station or bus stop there?
- Who would benefit from this extension or addition?
- How would it change the neighborhood? Is it all good change or might it have some negative impacts?

3. Using either printed copies of the neighborhood map, a copy of one of the existing MTA maps, or a blank piece of paper students can draw their extension or addition. Students can choose a line or route color and give it a number or letter.

4. Students should write a few notes either directly on the map if there is space or on piece of notebook paper or notecard making their case for the new stop.

5. When they are finished teams or partners should present to the class and make their case for why they want this change and how it would make traveling in their neighborhood easier.

Additional Resources:

Websites and Videos

Take a virtual tour of the [New York Transit Museum](#)

Find addition lessons on the history of transportation at the [New York Transit Museum](#)

Play short videos of different jobs at the [MTA](#)

Get [inspiration](#) from a recent bus redesign in Queens

Learn more about the [MTA](#)

Learn more about [Phase 2 of the Second Ave subway project](#)

Learn more about the [Arts and Design](#) in the system

Learn more about [climate resilience](#) at the MTA <https://www.mta.info/climate>

Learn more about [subway routes are designed.](#)

Books

Curious George Subway Train Adventure Book

Subway Ride by Heather Lynn Miller

The Great New York Subway Map by Emiliano Ponzi

Me on the Map by Joan Sweeney

Henry's Map by David Elliot