



# MAKE TRAX

YOUTH FIELD GUIDE



**Make Trax:**  
**A youth-led project to explore...**

- Walking and Rolling to School
- Safer Routes
- Green Living
- Community Service





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- Walking and Rolling to School
- Safer Routes
- Green Living
- Community Service

## Table of Contents

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### Lesson 1:

About Make Trax .....4

### Lesson 2:

Maps.....6

### Lesson 3:

Technology and Field Work.....8

### Lesson 4:

Field Activity ..... 10

### Lesson 5:

Research Information ..... 12

### Lesson 6:

Project Priorities..... 14

### Lesson 7:

Recommendations ..... 16

### Lesson 8:

Presentation..... 18



## Make Trax...

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Is a student-led project to collect and use information to increase the number of students who walk, bike, or roll to school. When the distance is reasonable and the route is safe; walking, biking, and rolling to school provides regular physical activity, reduces traffic, improves air quality, and saves resources around schools. The Make Trax project is a way for you to serve your school and community by encouraging an active lifestyle and wise energy use.

## Include All Students<sup>1</sup>

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The Make Trax project described on the following pages is focused on walking to school. You are encouraged to use the same process, with relevant modifications, to collect information about rolling to school. Please refer to the Michigan publication “Safe Routes to School for Students with Disabilities” or the National Center on Health, Physical Activity and Disability publication the Discover Inclusive Safe Routes to School Guidebook to learn about including even more students in Safe Routes to School.

1. The Michigan publication Safe Routes to School for Students with Disabilities can be viewed and downloaded at [www.saferoutesmichigan.org](http://www.saferoutesmichigan.org).

## Your Make Trax Project

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### Begins with:

- Collecting survey information and learning about community resources.

### Continues with:

- Using internet mapping and digital photography to plan and carry out a field activity.


### Ends with:

- Developing recommendations to increase walking to school and improve route safety.
- Making a presentation to local leaders and teachers.

## Use the Make Trax Online Resource to:

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- View and print copies of the entire Make Trax Student Field Guide (this book!).
- Find and print handouts for each step of your project.

Note:  Denotes items available online

# Lesson 1: About Make Trax

**Learn all about a new student-led project called Make Trax!**

## **You need:**

- Computer with Internet access.
- Safe Routes to School Student Survey—1 per person. 📄
- Make Trax *Walking and Rolling to School* handout—1 per person. 📄
- *Community Information Worksheet*—1 per person. 📄

## **Resources:**

**[www.saferoutesmichigan.org](http://www.saferoutesmichigan.org)**

Michigan Safe Routes to School website


**[www.saferoutesinfo.org](http://www.saferoutesinfo.org)**

National Center for Safe Routes to School website

**[www.census.gov/schools/facts](http://www.census.gov/schools/facts)**

School based demographic and population facts from the U.S. Census





## Is your school or community already working on a Safe Routes program?

Check out the Safe Routes Michigan website to see if your school is registered. If so, additional student surveys may have been completed, and you could get the results from the Safe Routes to School Team. Go to [www.saferoutesmichigan.org](http://www.saferoutesmichigan.org) for more information.

## What to do:

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### 1. Do this!

- Take the Safe Routes to School (SRTS) Student Survey.
  - Read the sidebar note on this page about Safe Routes to School in your community.
- 

### 2. Talk about this!

- What do you think about people who walk or bike to school?
  - Do many students walk or bicycle to school now?
  - Is it safe?
- 

### 3. Check this out!

- The *Make Trax and Walking and Rolling to School* handout.
- 

### 4. Talk about this!

- Why is walking a good choice?
  - What do you need to walk safely?
  - What Make Trax research questions will you answer?
- 

### 5. Check this out!

- The community website resources.
- 

### 6. Do this!

- Complete the *Community Information Worksheet* as a group.
- 

### 7. Talk about this!

- What local government officials and other community leaders do you think should be involved with this process?
  - Who would you want to invite to your community presentation at the end of the project?
- 

### 8. Do this!

- Identify who will invite the officials or other local leaders to the end presentation and contact them ASAP!



# Lesson 2: Maps

*Learn some cool things on the computer about mapping locations, and make a map of your school area.*

## You need:

- Computers with Internet access—1 for each group.
- A printer.
- Permission to download Google Earth if it is not already installed on the computers being used. Google Maps or other mapping websites can be used as an alternative to Google Earth, and do not require installation.

## Resources:

[www.google.com/help/maps/mymaps/create.html](http://www.google.com/help/maps/mymaps/create.html)

For help with Google Maps

[www.freemaptools.com](http://www.freemaptools.com)

For help to create a radius around a point on a map

[www.earth.google.com/support](http://www.earth.google.com/support)

For help with Google Earth

[www.batchgeo.com](http://www.batchgeo.com)

To make student addresses into a map

[www.communitywalk.com](http://www.communitywalk.com)

A website to create a walking route





## What is Pictometry?

Pictometry is detailed aerial photography. Photographs are taken at a 40 degree angle from a source off the ground. The photographs show buildings, infrastructure, and land from all sides. In general, this approach results in a lot of visual detail because there are multiple perspectives.



## What to do:

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### 1. Answer this!

Use your SRTS Student Survey results and what you talked about at the last meeting

- What is cool about walking, biking, or rolling to get to places you want to go?
  - Is it safe to walk to your school now?
- 

### 2. Do this!

- Form small groups to work at a computer.
  - Go to **[www.google.com/earth](http://www.google.com/earth)**.
  - Get permission to use Google Maps.
  - Follow directions and download Google Earth. On the left side of the screen, click on "Downloads."
- 

### 3. Find this!

- Use Google Earth to locate your school.
  - If time permits, locate other community destinations. View destinations at **[www.google.com/maps](http://www.google.com/maps)** in the Satellite View.
- 

### 4. Do this!

- Create a 1-mile circle (radius) around your school, using Google Maps, Google Earth, or FreeMapTools.com.
  - Divide the circle into sections. Use streets as the boundaries of sections.
  - Assign one section of the circle to each group of students.
- 

### 5. Get this!

- Ask to get a list of student addresses (without names).
    1. Go to **[www.batchgeo.com](http://www.batchgeo.com)**.
    2. Copy and paste addresses into the designated field and generate a map.
- 

### 6. Try this!

- Compare the radius map and the map of the student enrollment area.
- 

### 7. Talk about this!

Assign each group one section of the map!

- Do many students live in your section?
  - Where do students live?
  - What is the most walkable route to school?
- 

### 8. Find this!

- Pick a familiar route your group will walk during the field work activity.
- 

### 9. Do this!

- Mark the route your group will walk on the map you created.
  - Save and print a copy of the map with the walking route.
  - Look at your route on Google Maps and talk about what you see.
  - Mark features you notice such as crosswalks.
-

## Lesson 3: Technology and Field Work

*Form research teams, look closely at the What to Look For handout, plan your field work activity, and practice using notes and cameras to collect information.*

### You need:

- Computers with internet access—1 per group.
- Digital cameras or cell phones with photography capability (if allowed)—1 per group.
- Guide for Taking Photos handout—1 per small group. 📷
- What to Look For handout—1 per small group. 📷
- What to Look for Example handout—1 per group. 📷
- A printer.

### Resources:

[www.maps.google.com](http://www.maps.google.com)

Google Maps to help view your walking route

[www.saferoutesmichigan.org](http://www.saferoutesmichigan.org)

Michigan Safe Routes to School website

*Michigan Safe Routes to School Handbook*







## What is a Professional Planner?

A Professional Planner partners with communities to help them become wonderful places to live, work, grow up, and play. They help decide what kinds of buildings should go where, where new parks might be needed, and what areas in the community are in need of changes to make them better places. (APA: [www.planning.org/kidsandcommunity/whatisplanning](http://www.planning.org/kidsandcommunity/whatisplanning))

## What to do:

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### 1. Listen to this!

- At the beginning of this lesson, you may hear from a planner or other government official. They will tell you about what they do, what barriers to look for in the field activity, and what recommendations you might give to fix those barriers.
- 

### 2. Read this!

- *What to Look For* handout. Remember to take this handout when you walk your route!
- 

### 3. Talk About This!

- What types of barriers will you look for during your field activity?
  - What kinds of barriers present the biggest challenges?
  - What are some barriers you have experienced while walking?
  - Do you need to add anything to this list?
- 

### 4. Check this out!

- *Guide for Taking Photos* handout.
- 

### 5. Talk about this!

- How do you take a good photograph?
  - Why should you write a note about each photo you take? (Tip: To explain why the barrier is a problem)
  - You will capture address information at the same time you take a photo during your field activity. (Tip: Can't find an address? Look for the nearest cross-streets.)
- 

### 6. Find this!

- Get a map of your walking route from your last meeting or print one off from your saved file.
- 

### 7. Do this!

- Get your camera or cell phone ready (make sure the battery is fresh or fully charged).
- Review your group's map and walking route.
- Remember that recording field notes explains the barrier photographed and addresses are needed for the location where the photograph was taken.
- Decide who will be the:
  1. Map holder and note-taker.
  2. Photographer.
  3. Navigator (address writer).
  4. Timekeeper.

## Lesson 4: Field Activity

*Walk a route students use to get to school (or could use if they walked) and collect field information.*

### You need:

- Digital cameras or cell phone cameras – 1 per group.
- Clipboards – 1 per group.
- Maps of routes – 1 per group.
- *What to Look For* handout – 1 per person. 📄
- Pencils
- Watch or other time-keeping device – 1 per group.

### Resources:

*Adult chaperone*





## What to do:

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### 1. Do this!

- Get the group's route map, camera, clipboard, pencils, paper, and *What to Look For* handouts.
- Write the number of the camera on your route map.

### 2. Answer this!

- Who is the map holder, note-taker, photographer, navigator, and adult partner?
- Why are field notes needed? (To explain the condition of the barrier. Be sure to also write down the street addresses.)
- What route is your group walking?
- When do you need to be back to the meeting room?

### 3. Do this!

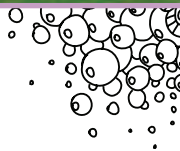
- Walk your route.
- Take photos of the barriers.
- Make notes that describe the barriers.
- Record locations of photos.
- Keep track of time and return to the meeting room on time.

### 4. Talk about this!

- What did you see on your route?
- If there were barriers along your route, which were the most significant?

### 5. Do this!

- Return your camera.
- Make sure that the map-carrier and note-taker bring the map and notes to your next meeting.
- Congratulate each other for a job well done!



# Lesson 5: Research Information

*Today you will think about student information needed for your research project, and decide whether to collect more information. You will also enter the data you collected during your field research and produce a map that has photos and field notes linked to specific locations.*

## **You need:**

- Computers with Internet access—1 per group.
- Digital camera used for field work.
- Field notes made during field work.
- *Sample Route Map with Photos.* 📁
- *What to Look For* handout. 📁

## **Resources:**

[www.communitywalk.com](http://www.communitywalk.com)  
Route making software





## What to do:

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### 1. Check this out!

- *Sample Route Map with Photos*. You will have a map with photos of your route by the end of Lesson 5.
- 

### 2. Do this!

- Get the route map, field notes, address information, and camera from your field activity.
  - Be sure you have the camera your group used; check the numbers on the equipment with your maps and notes.
- 

### 3. Check this out!

- [www.communitywalk.com](http://www.communitywalk.com)
- 

### 4. Do this!

- Go to [www.communitywalk.com](http://www.communitywalk.com); find or re-create your route.
- Using the photos and addresses you've gathered, create points on the map where you observed barriers and took photos. Upload the corresponding photos to those points.

- After you have linked the location data and photographs, save your work.
  - Open the saved map and click the photo icons on the map. As you click on each icon, the photo will appear along with a text box.
  - Type the notes you have for that condition into the text box.
  - Save your map again. You now have a map with photos and descriptions of the barriers!
- 

### 5. Talk about this!



- What were the one or two biggest barriers your group found along your route?



## Lesson 6: Project Priorities

*Now you will take another step and determine how often certain barriers occur on your route, and which barriers your team thinks are the most significant.*

### **You need:**

- Computers with Internet access and Microsoft Excel – 2 per group.
- Route map with photos and notes attached.
- *Instructions for Entering Chart Data.* 
- *Excel Spreadsheet Template.* 

**Remember to SAVE your work!**





## What to do:

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### 1. Do this!

- Get your route map, notes, and any additional information you need to complete your route map with photos and notes.
- Continue to enter the photos and notes on your map if you did not complete this activity during the previous meeting, or move on.

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### 2. Check this out!

- *The Excel Spreadsheet Template.*
- *Instructions for Entering Chart Data.*

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### 3. Answer this!

- What barriers did you find on your route?
- Does the template include all of the problems your team found? If not, add any columns you need. Save your version of the template.

---

### 4. Do this!

- Open your group's version of the template on one computer.
- On another computer, open your group's route map with photos and notes.
- Work together as a group to open each photo on the map on one computer.

- Using the *Instructions for Entering Chart Data*, fill out the spreadsheet.
- Using the instructions and spreadsheet, you will:
- Compute the frequency of each type of condition you observed on your route.
- Create a bar graph of the frequency of different barriers using the instructions given. Save your work.

### 5. Talk about this!

- Are the most frequent conditions also the most significant?
- What are the top one or two most challenging barriers on your route? Why?
- What is your group's highest priority barrier for improvement?
- If this barrier were improved, do you think more students would safely walk to school on this route? Why might they still not walk?



# Lesson 7: Recommendations

*Complete the **Make Trax Recommendations Worksheet**. What do you and members of your community need to do to increase the number of students walking to school? If there are unsafe conditions along the routes to school, what steps should be taken to make the routes safer? Which members of the community do you need to work with?*

## You need:

- Computers with Internet access—1 per group.
- Student survey findings (from Lesson 1 or larger planning initiative).
- Route maps with photos and notes.
- Completed *Excel Spreadsheet Template*.
- Make Trax *Recommendation Worksheet*. 📄
- Completed *Community Information Worksheet* from Lesson 1.

## Resources:

[www.saferoutesmichigan.org](http://www.saferoutesmichigan.org)

Michigan's Safe Routes to School website







## What to do:

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### 1. Review this!

- Student survey information from Lesson 1.
- 

### 2. Answer this!

- What student attitudes and beliefs about walking and rolling to school most influence you?
  - Would students at your school walk if the route was safer and the distance was reasonable?
- 

### 3. Do This!

- Decide if students need encouragement to walk to school. If so, what can be done to encourage walking?
  - Decide if activities or projects to educate students are needed. If so, what is needed?
- 

### 4. Answer this!

- What barriers are the most significant on your route?
- 

### 5. Check this out!

- Completed *Community Information Worksheet* from Lesson 1.
- 

### 6. Talk about this!

- Who else in the community needs to be involved before solutions are determined?
- 

### 7. Review this!

- *Make Trax Recommendations Worksheet*
- 

### 8. Do this!

- The *Make Trax Recommendation Worksheet*.
  - What additional information is needed to propose solutions?
  - Decide what route improvements are most important. Where do most students live? What route improvements will affect the most students?
  - What activities or projects are needed to educate and encourage students to walk to school when the route is safe? (Tip: think about the meeting with the planner and the recommendations she or he gave)
  - Who else needs to be involved in making changes to the walking route?
- 

### 9. Congratulations on your fantastic team work!

# Lesson 8: Presentation

***Complete a presentation to show to school and community leaders. Identify presentation roles, and practice your presentation by delivering it to your group. Celebrate your success!***

## **You need:**

- Computers with Internet and presentation software access—1 per group.
- Make Trax electronic research files (maps, spreadsheets, photos).
- Completed *Make Trax Recommendation Worksheets*.
- PowerPoint slide template options. ☁
- CD, flash drive, or cloud software to transport files to presentation site.
- LCD projector and cables to connect to computer.
- Projection screen.

## **Resources:**

***[www.wikihow.com/Use-Microsoft-Office-PowerPoint](http://www.wikihow.com/Use-Microsoft-Office-PowerPoint)***

How to use PowerPoint

***[www.prezi.com](http://www.prezi.com)***

Online presentation software





Create notes for the slides your team develops, and study the notes and slides at home to prepare for the presentation and questions after the presentation.



## What to do:

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### 1. Find this!

- Completed *Make Trax Recommendations Worksheet*.
  - Maps with photos and notes.
  - Spreadsheet and bar graph.
- 

### 2. Check this out!

- PowerPoint slide template options.
  - [www.wikihow.com/Use-Microsoft-Office-PowerPoint](http://www.wikihow.com/Use-Microsoft-Office-PowerPoint)—how to use PowerPoint.
  - [www.prezi.com](http://www.prezi.com)—online presentation software.
- 

### 3. Do this!

- Pick or create a PowerPoint slide or Prezi template that your team can agree on.
- 

### 4. Talk about this!

- Divide the group into pairs or teams and decide what slides each team will create.
- 

### 5. Do This!

- Create the PowerPoint or Prezi slide presentation. Slides may cover the following information:
- A title slide.
- A slide describing the purpose of Make Trax and the SRTS movement.

- A slide of the research activities and technologies used.
  - A slide showing student survey results.
  - Several slides showing the walking route(s) maps and spreadsheets that were created.
  - Several field activity photos.
  - A slide of Make Trax recommendations.
  - A slide of essential community partners.
  - Additional slides may be created.
- 

### 6. Check this out!

- *Presentation Skills handout*.
- 

### 7. Talk about this!

- Decide who is presenting slides.
  - Decide what other tasks need to be accomplished and who will do them:
    1. Who will invite the community members?
    2. Who will help book the meeting space?
    3. Who will be responsible for the projection equipment?
    4. What other tasks need to be thought of and assigned?
  - Practice your presentation.
  - Finalize your plan for presenting.
- 

### 8. Make your presentation!

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### 9. Congratulations on a job well done!