

LSSA Michigan Tech Data Co-op Project, 2018-2019 – Rate and Capacity based Analysis of Modal Shares

KICK-OFF MEETING

Feb 9th, 2018

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Rail Transportation Program

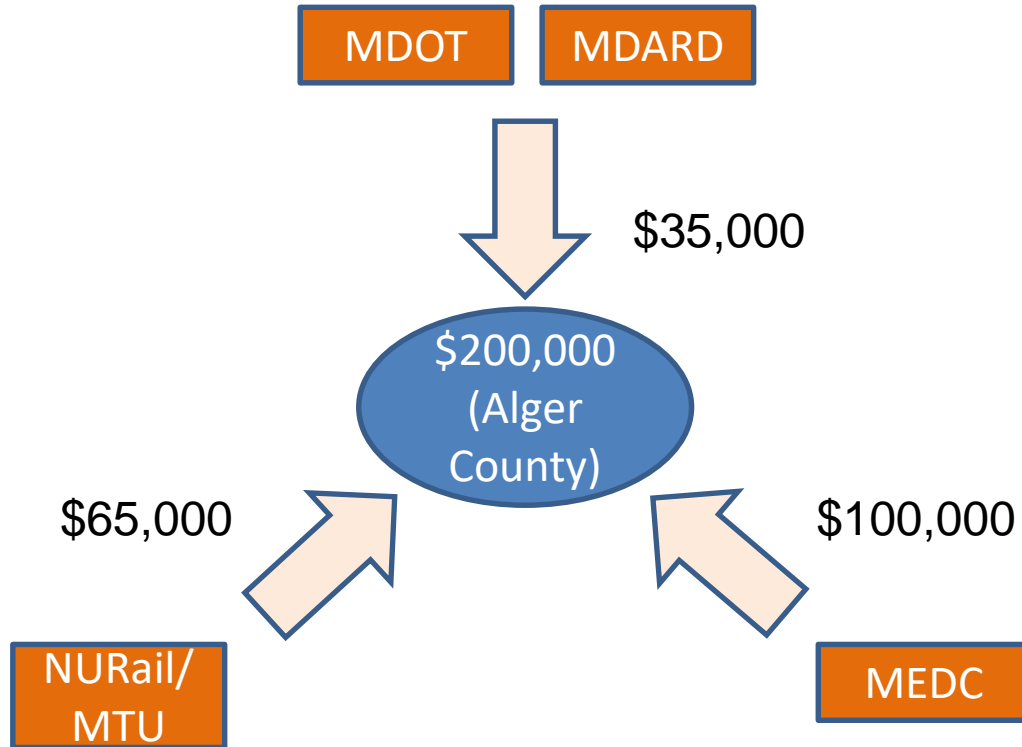
Michigan Tech Transportation Institute • Michigan Technological University

Michigan Tech
Create the Future

Agenda

- I. Funding update
- II. Review Project Scope
- III. Updated Task Schedule
- IV. Task 1: Data Collection (**Log & Non-Log movement** Data)
 - 1) Uni-Format for Data Collection
 - 2) Location of Data Uploading
 - 3) Contact Information regarding Data Collection
 - 4) Deadline of Data Sending/Uploading
 - 5) Data Security Plan
- V. Task 2: Network Data for Log Model
 - 1) Mill Constraints/Operations Data
 - 2) Yards and Rail Sidings
- VI. Upcoming Activity for Data Collection
 - Travel Plan for Data Collection

I. Funding Update



II. Review Project Scope

1. Objective

- Develop spatial model for the modal splits of log movements by truck and by truck/rail for existing infrastructure (incorporating capacity and operational limitations).
 - Look into possibilities to increase the rail share and potential other benefits, if infrastructure /operations are modified.
- Identify “non-log” movements into/out of the region by forest products/other industries.
 - Mapping main lanes for outbound products (and other customers)....
Not included in the spatial model

II. Review Project Scope

2. Analysis of Model Outputs

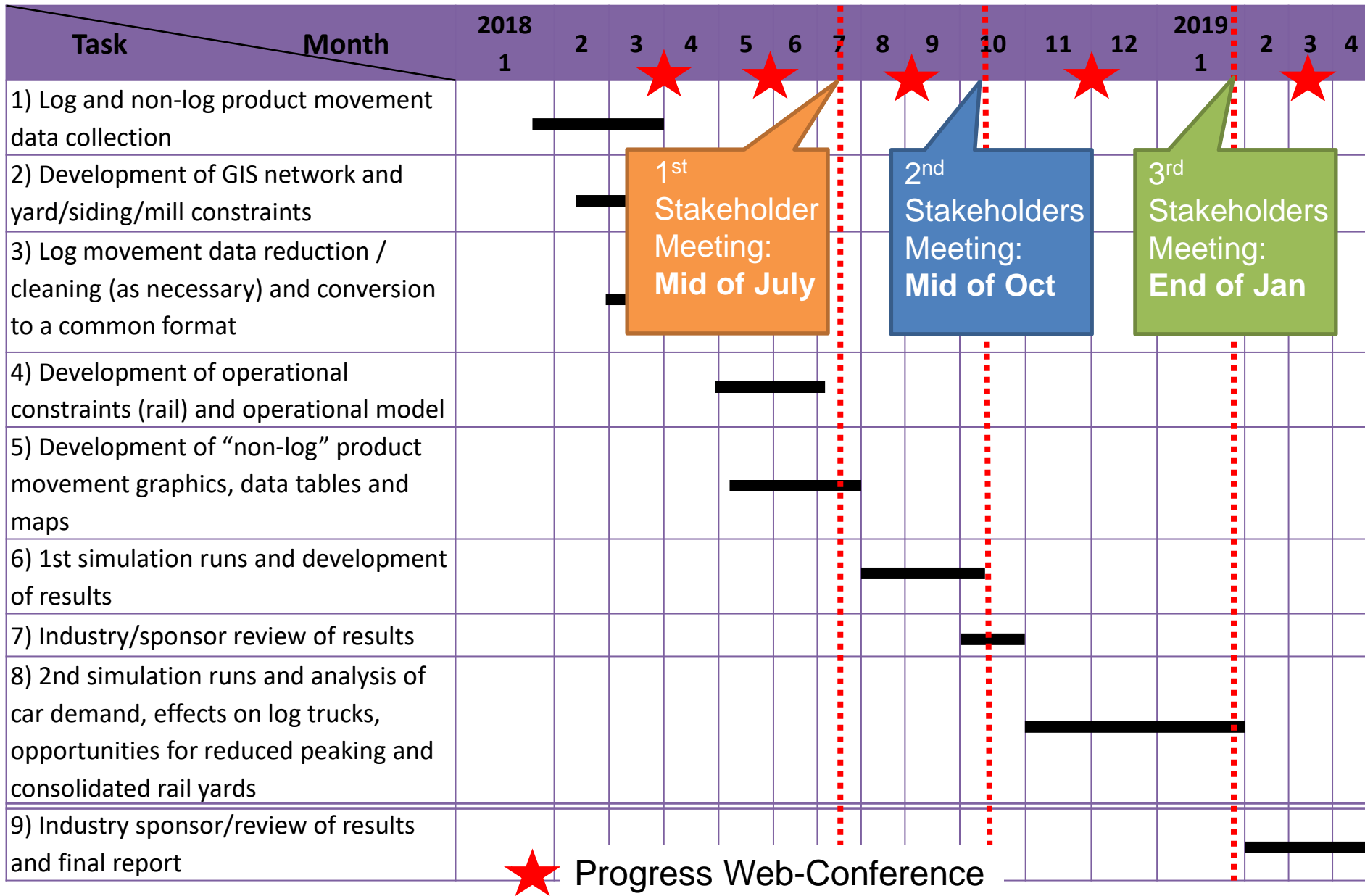
- Are there opportunities for creating economies of scale in rail, if log movements in the region are considered as a single pool (sensitivity to shipment sizes and locations)?
- Are there strategic locations for larger rail sidings that could accommodate larger blocks of cars, thus better supporting the current rail business model?
- Are there opportunities to use consistent rail shipment to alleviate spring breakup limitations?

II. Review Project Scope

2. Analysis of Model Outputs

- What number of rail cars dedicated to the region would be needed to move the product?
- Could increase in (consolidated) shipments by rail create productivity improvements for log truckers?

III. Updated Task Schedule



IV. Task 1: Data Collection

1. Recommended Format for Data Collection

① Log-movement Data

- ✓ Unique identifier for the trip (Load/Scale Ticket??)
- ✓ Purchaser and Seller Company Information
- ✓ Shipping Information (O/D Coordinates, Distance and Mode)
- ✓ Weight Information (Tonnage)
- ✓ **Product and Rate Information (see next slide)**
- ✓ **Date Range: Calendar year of 2016 or 2017???**

IV. Task 1: Rate Data Collection

1. How to Model Rates?

- ✓ **OPTION 1:** Obtain actual rates from participating companies. Create general ton-mile rates per
 - ✓ Each individual company/mill, **OR** LSSA as a group
- ✓ **OPTION 2:** Request average ton-mile rates from each company. Use averages
 - ✓ Each individual company/mill, **OR** LSSA as a group (average of average)
- ✓ Loading at landing (self-loader) and unloading (loader) at mill/rail siding included
 - ✓ Loading at rail siding extra cost, how much?

IV. Task 1: Data Collection

1. Recommended Format for Data Collection

② Non-Log movement Data

- ✓ Load ticket and Product Information (SCTG)
- ✓ Origin Information
- ✓ First Destination and shipping information for trip to first Destination
- ✓ Second Destination (if only the first destination is not final destination)
- ✓ Mode of transportation code (for each segment)

ID			Product Information			Origin							Destination 1							
ID	Ticket ID	Date	BCTG commodity code	Commodity Description	Net Shipment Weight in tons	Origin Name	Address	City	State	Country	Zip	Latitude	Longitude	Destination Name	Address	City	State	Zip	Latitude	Longitude
Ex 1	19156	1/6/2016	15100	bituminous coal	1,800	Thunder Basin Coal LLC	5569 WY-450	Wright	WY	US	82732	46.8177	-87.8982	E&LS Railroad	1401N26th St	Escanaba	MI	49829	46.538	-88.0367

Shipping Information for Trip to Destination 1			Destination 2 (if only Destination 1 is not final destination)							Shipping Information for Trip to Destination 2	
Transportation to Destination 1 (M/MN/W/I): Enter all that apply in order used. Use codes at Column AJ	Shipment value (US \$) (Transportation fare)	Is here final destination n? (Y/N)	Destination Name	Address	City	State	Zip	Latitude	Longitude	Mode of Transportation to Destination 2 (Final Destination): Enter all that apply in order used. Use codes at Column AJ	Shipment value (US \$) (transportation fare)
3, 4	4000, 15000	N	Presque Isle Power Plant	2701N Lakeshore Blvd	Marquette	MI	49855	46.538	-88.04	3	10000
			10								

Mode of transport codes for column (V) and (AF):	
1	Parcel delivery, courier, or US Parcel Post
2	Company-owned truck
3	For-hire truck
4	Railroad
5	Inland water
6	Deep sea
7	Pipeline
8	Air
9	Other mode
0	Unknown

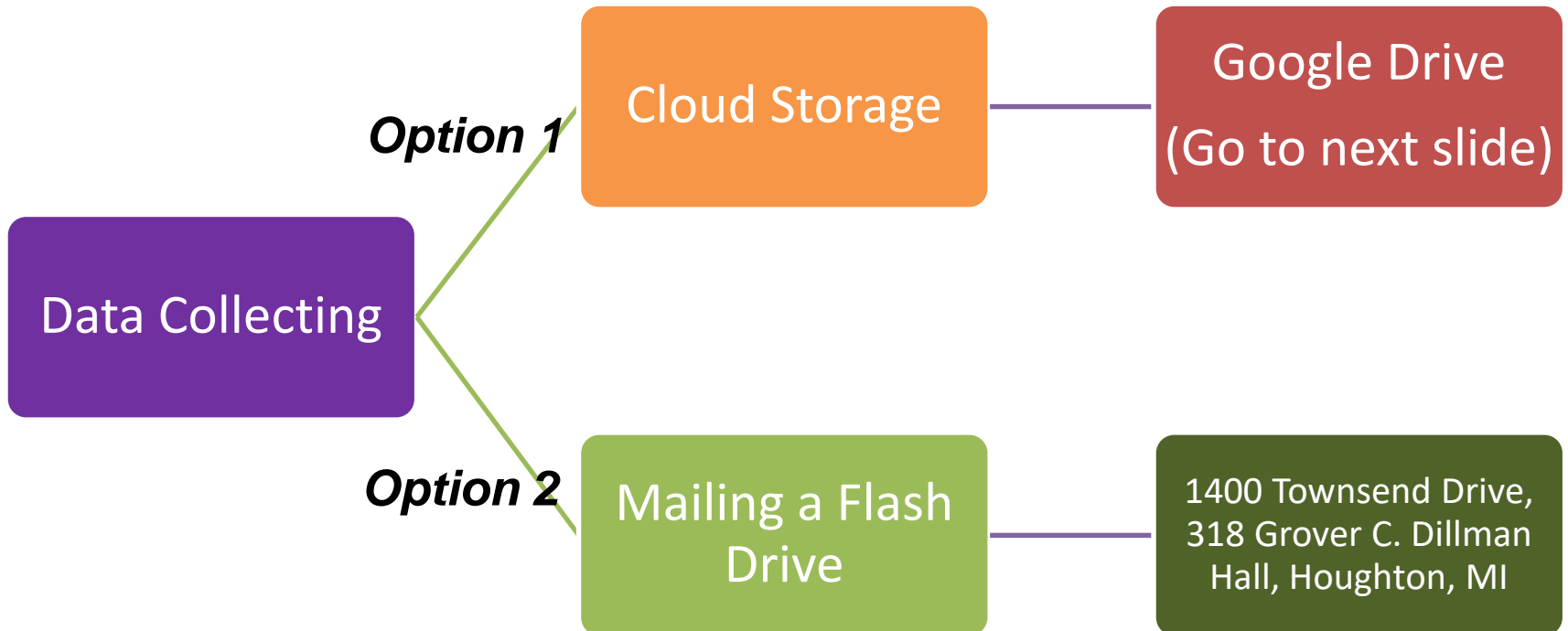
IV. Task 1: Data Collection

1. Supplementary data from [NRTC Commodity Survey](#)

- Mailed to almost 200 companies in NW Wisconsin
 - 80+ responses
- Opportunities with data
 - Identify detailed O/D within the region
 - Potentially contact key shippers for more detailed data
- Challenges
 - O/D outside the region vague (Northeast, Northwest, etc.)
 - Only covers Northern Wisconsin (we think)

IV. Task 1: Data Collection

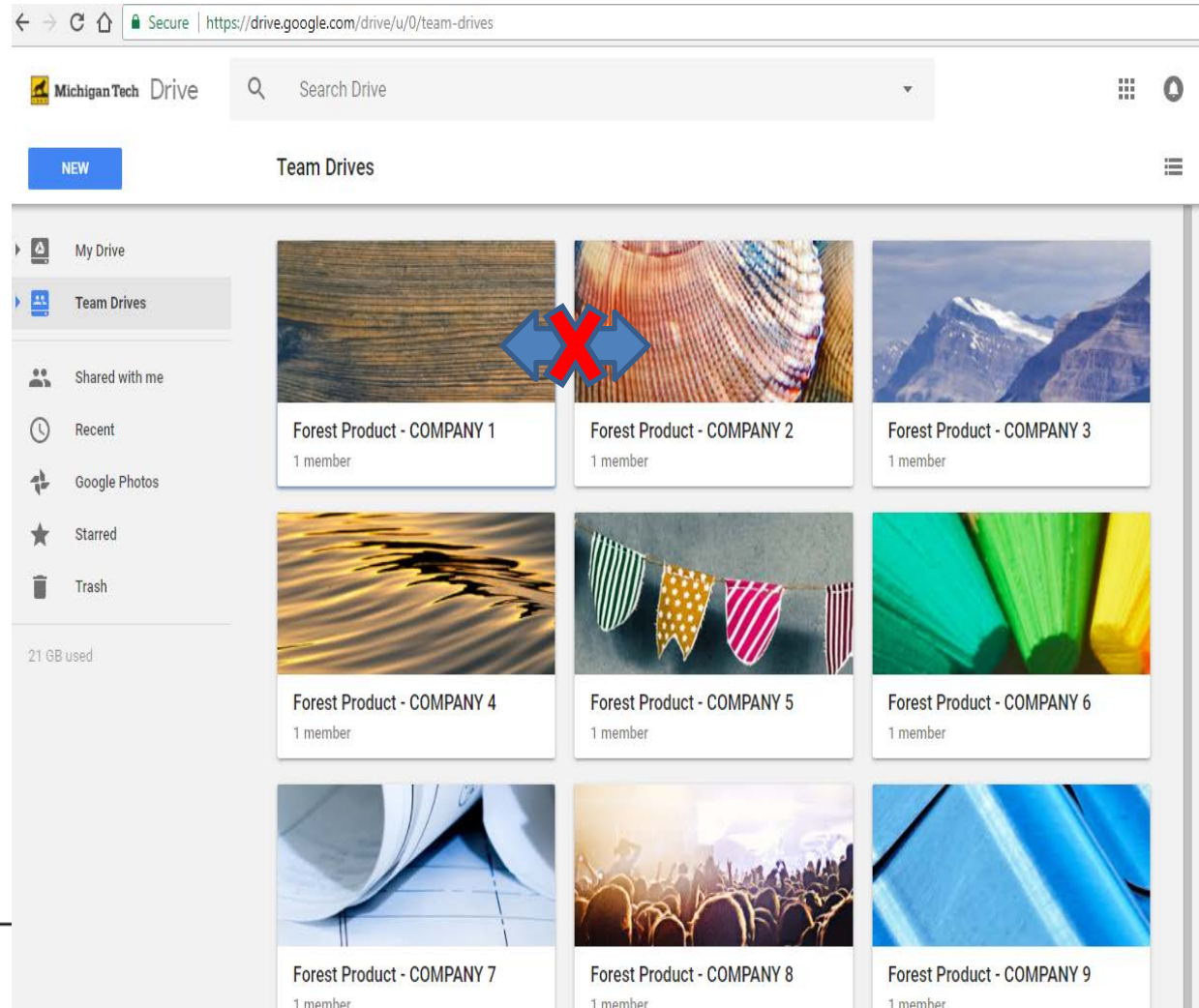
2. Data Uploading Location: ① Google Drive or ② Mailing a Flash drive



IV. Task 1: Data Collection

2. Data Uploading Location: ① Google Drive (“For Teams” Service)

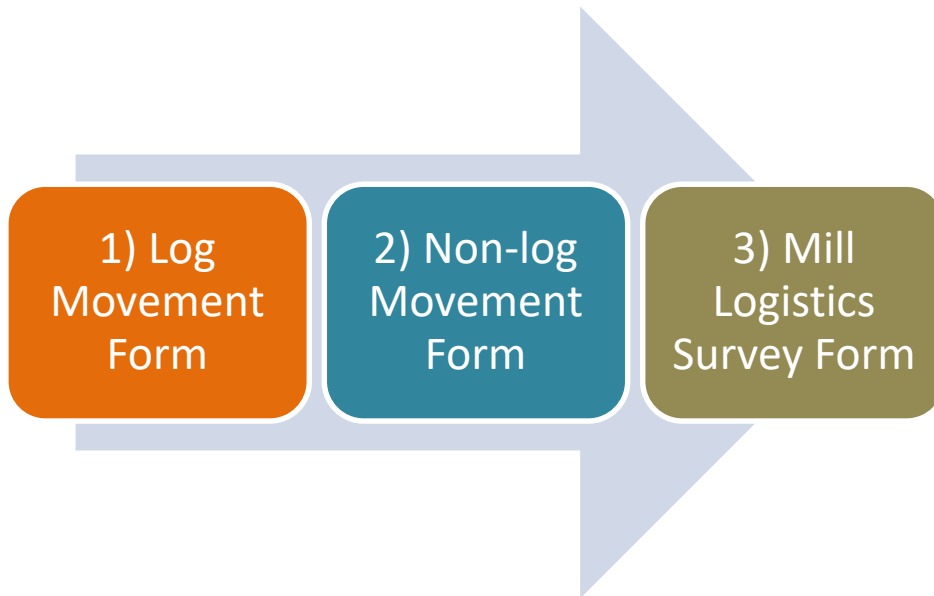
- ✓ Google Drive can be a single secure place for all data collection.
- ✓ Each company with access only to their data.
- ✓ Requires a “Gmail Account”.



IV. Task 1: Data Collection

2. Data Uploading Location: ② Mailing a Flash Drive

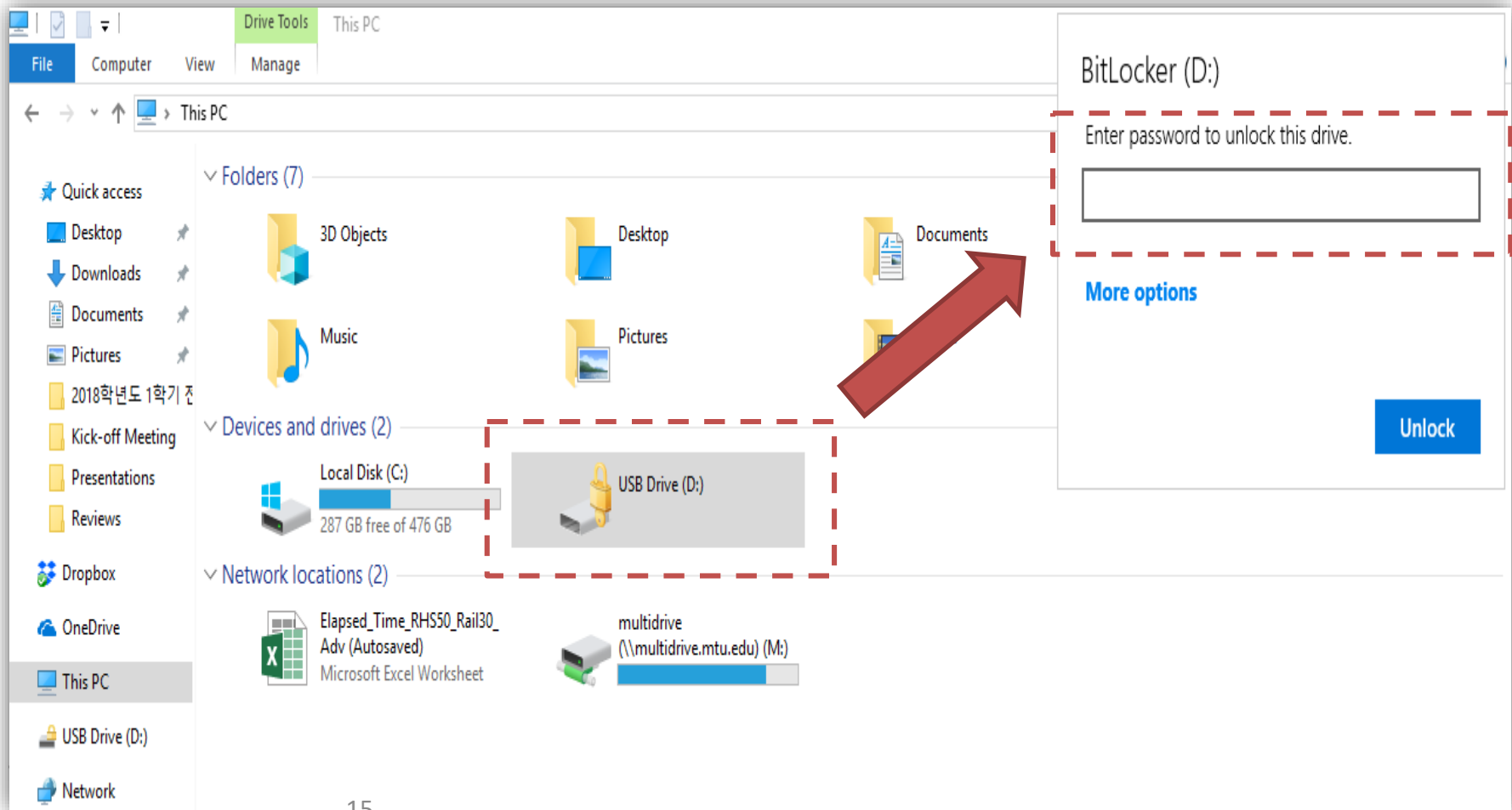
- ✓ We will hand out a flash drive in which three forms to collect data were saved.



IV. Task 1: Data Collection

2. Data Uploading Location: ② Mailing a Flash Drive

- ✓ Each flash drive was encrypted with unique password.



IV. Task 1: Data Collection

3. Contact Persons for Data Collection

* Please don't forget to...

- ① fill out the attendance list, and
- ② let us know your Gmail account. Invitation of Google Drive will be sent through this Gmail address.
- ③ If you want to mail a flash drive, let us know the number on your flash drive you got today. Password of your flash drive will be sent through your current email address (not necessarily Gmail account).

* Contact by email sangpilk@mtu.edu or 906-370-4094, if you have any question on data uploading with Google Drive or Flash Drive.

< Attendance List >						
02-09-18, Sagola MI						
	Name	Company	Phone	e-mail	Gmail	The number on your flash drive
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

IV. Task 1: Data Collection

4. Deadline of Data Sending/Uploading

- ✓ Four deadlines are set up between Feb 23 and Mar 16 (every Fri).
- ✓ Choose your preferred deadline and send/upload your data by your deadline.

February 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

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19: Presidents' Day

Data provided 'as is' without warranty

March 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

V. Task 2: Development of GIS Network

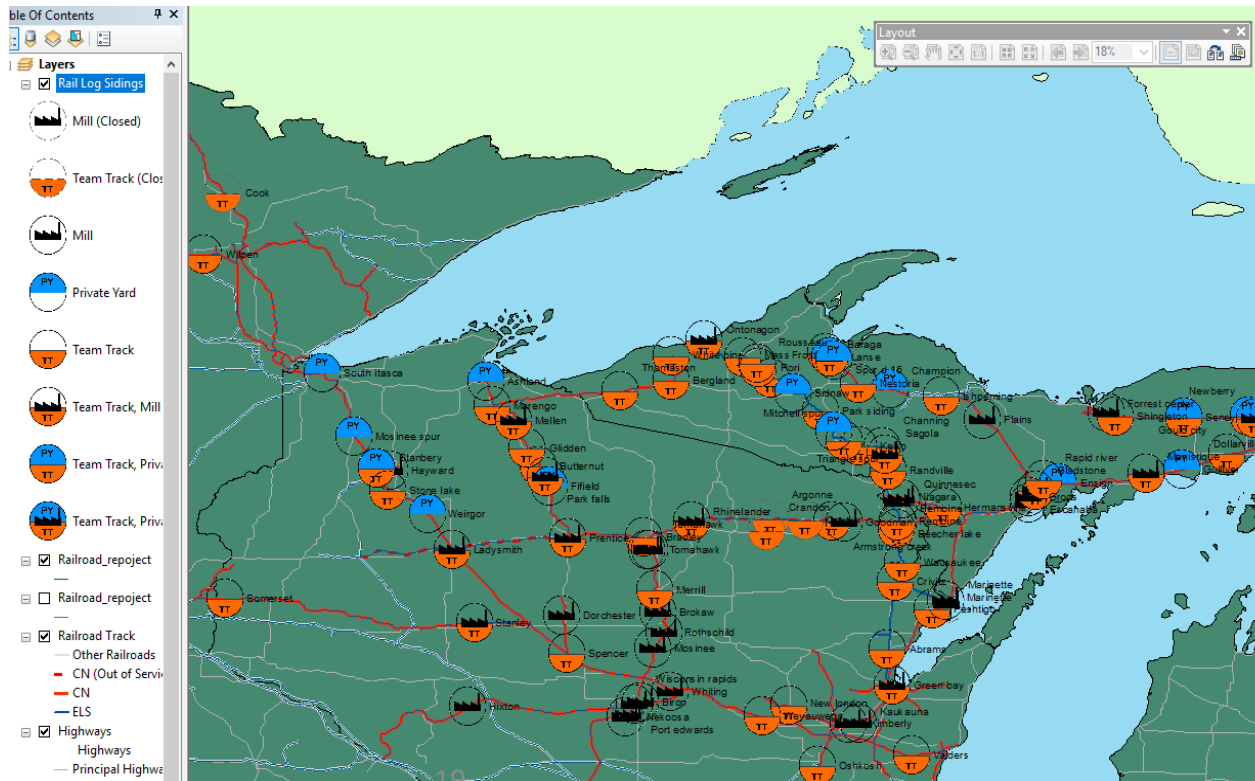
- **Mill/Yard Logistics (Constraints) Survey** to develop log model
 - Capacity/infra (storage)/operations in **Destination (Mill or Consolidation site)** for **Truck/Rail**
 - Average operational characteristics (wait times, etc.)
 - Collected with the log/non-log movement data

Mill/Yard Logistics Study			
The survey attempts to understand the infrastructure, capacity, and operational characteristics of specific mills .			
Please complete this survey and return it with the completed movement data. Thank you for your time and valuable feedback! (Contact: sangpilk@mtu.edu)			
Name and Location of the Facility:			
Category	Subcategory 1	Subcategory 2	Questions
Origin (Landing)		Loading Time at the Logging Site	1 Average loading time per truck?
Destination (Mill)	Basic Information	Demand Capacity	2 Quantity of log (Tons / Year) needed? (Demand for our data year)
		Storage Capacity	3 Storage capacity (maximum tonnage) of the log at the storage facility of mill?
		Processing Capacity	4 Average tonnage of logs used/processed per day?
	Truck Transportation	Current Number of Inbound Trucks	5 Average and Maximum number of inbound trucks per a day?
		Unloading equipment	6 Unloading capacity at the mill/yard (trucks/hour or tons/hour)?
		Waiting Time at the Mill	7 Average waiting time at the mill?
		Unloading Time	8 Average unloading time at the mill (time inside the gates)?
		Single / Multi Modal	9 Is rail transportation currently used for log movements?
	Rail Transportation	Rail Operation	10 Service provider and service days per week (number and which days)
		Type of Rail Car	11 Ownership of rail cars (size of fleet, if owned by the company)?
		Number of Cars in a Train	12 Average and Maximum number of rail cars per train?
		Unloading Capacity of Rail at the Mill	13 Unloading capacity at the mill/yard (rail cars/hour or tons/hour)?
		Maximum Rail Car Capacity	14 Maximum rail car capacity on site (amount of track for empty/loaded cars)
		"Trackmobile"	15 Do you own equipment to move rail cars within the mill?
		Intermediate Consolidation Sites (including satellite yards using truck or/and rail)	Basic Information
Capacity of Consolidation Site	17 What is the storage capacity (maximum tonnage) of the log consolidation site?		
Storage Cost at Consolidation Site	18 Average cost for storing logs (\$ / ton / month)?		
Truck Transportation	Loading/Unloading Equipment		19 Loading/unloading equipment?
	Loading / Unloading Cost		20 How is loading and unloading included in the cost?
Rail Transportation	Rail Operation at Consolidation Site		21 Service provider and service days per week (number and which days)
	Rail Capacity at Consolidation Site		22 Average and Maximum number of rail cars per train?
	Loading Equipment		23 Average loading time at the mill (time inside the gates)?
	Capacity Restrictions		24 Maximum rail car capacity on site (amount of track for empty/loaded cars)
	Loading Cost		25 How is loading included in the cost (especially important if there is multimodal transportation)

V. Task 2: Development of GIS Network

- **Infrastructure Data to develop GIS Network**

- Road/Rail network and location of rail sidings/yards ready, but needs to be updated.
- Do you have **GIS layers** (e.g., shp file) for the forest road or any other infrastructure?
- If yes, please upload/send it with other data forms. (using Google Drive or Flash Drive)



VI. Upcoming Activity for Data Collection

- ✓ Travel Plan for Data Collection
 - Meeting with CN (IL) & Verso (OH) within next four weeks
 - Meeting with E&LS (MI)
 - Visiting Mills ???

Thank you!
(Q & A)