April 10, 2024: Public Meeting **Resilient Ways Forward** Transportation planning for our changing climate



# Welcome

- Q&A: Use the Q&A to ask questions during the presentation. Speakers will respond following the presentation.
- Polls: We have questions for you to respond to during the meeting. You will receive a notification when a poll is open.





• *Resilient Ways Forward* Overview • Where are we vulnerable? *Resilient Ways Forward* Map Viewer Agenda  $\bigcirc$ • What can we do? Next Steps 0 • Q&A



### Introductions

Dutchess County Transportation Council
Mark Debald, Transportation Program Administrator
Tara Grogan, Planner

- ICF Project Team
  - Amanda Vargo, Climate Resilience Expert
  - Amanda Rycerz, Climate Resilience Expert



## Who is the DCTC?

- Metropolitan Planning Organization (MPO) for Dutchess County
- Required by federal law for Urbanized Areas of 50,000+ population
- Established in 1982 as the PDCTC
- Forum for establishing transportation policies & priorities
- Programs federal funds through a locally driven planning process

#### What do we do?

#### Core Products

44 44 44

- Transportation Plan: our Plan serves as the strategic guiding document for improving transportation in Dutchess County over the next 25 years.
  - Capital Program: our 5-year capital program assigns federal funding to highway, bridge, walking, bicycling, & transit projects.
    - Planning Progam: our annual work plan identifies upcoming planning studies and tasks.

#### **Regional Planning**

We work with Ulster and Orange Counties to address:

Congestion, Freight, & Transit

#### **County-wide Planning**

We work on studies to understand key issues:

- Walking and Biking
- Climate Vulnerability
- Speeding
- Traffic Trends
- Pavement Condition
- Human Services Transportation

#### Local Planning

We work with communities on:

- Parking Studies
- Complete Streets
- Corridor Studies
- Pedestrian Plans
- Safety Assessments
- Data Collection & Analysis







Resilient Ways Forward







ARLINGTON MAIN STREE REDESIGN INITIATIVE

# Study Goals

#### • What is *Resilient Ways Forward*?

• A climate vulnerability assessment to identify where our transportation system is most vulnerable to heat, flooding, drought, wind, winter conditions, and landslides

• A suite of resources and an implementation plan to better prepare our transportation system for climate change



#### Where are we in the process?



# Where are we vulnerable?



Bridge over Wiccopee Creek, East Hook Road (Tropical Storm Ida)

# What We Heard: Public Meeting #1

Which part of our transportation system do you think is the most vulnerable to extreme weather events?

Which types of extreme weather events have most impacted your ability to get around? What would be most helpful to government agencies and elected officials to make the transportation system more resilient?

- Roads
- Rail lines
- Bridges/culverts
- Bus routes

- Winter storm
- Flood
- Wind

- Strategies to reduce the system's climate vulnerability
- An implementation plan
- Funding coordination between agencies

#### What We Heard Mapping Survey

- Public submitted 20 points where travel was affected by extreme weather
- Reported issues were given extra weight in the vulnerability assessment





### Two-Phase Vulnerability Assessment

1: System-Level Analysis

**Objective:** Prioritize climate risks across transportation systems

2: Asset-Level Vulnerability Assessment

> Objective: Identify priority assets and locations for resilience investments

### Phase 1: System-Level Analysis

Sensitivity of Transportation System to 6 Climate Hazards:



# Where are we vulnerable?

Findings from Phase 1: System-Level Analysis

- Physical transportation infrastructure: most sensitive to flooding and landslides
- Transportation services and users: most sensitive to flooding, wind, winter conditions, landslides

#### Where are we vulnerable?

#### Step 2: Analysis Phase 1: System-Level

The Dutchess County Transportation Council (DCTC) is preparing a Climate Vulnerability Assessment, titled **Resilient Ways Forward**, that identifies where our transportation system is most vulnerable to the impacts of climate change. This will help us find ways to reduce and adapt to the adverse impacts on our transportation system. The Phase 1 System-Level Report analyzes the sensitivity of various components of the transportation system to specific climate hazards. The Phase 2 Asset-Level Report identifies specific assets and locations where the transportation system is most vulnerable to the impacts of climate change.

#### Measuring Sensitivity

The Phase 1 System-Level analysis evaluates how sensitive our transportation system is to six climate hazards: extreme heat, flooding, drought, wind, winter conditions, and landslides. For each type of transportation asset, sensitivity is measured on a scale of low, medium, or high, focusing on the sensitivity of physical infrastructure and services/user experience. Physical transportation infrastructure is most sensitive to flooding and landslides, while transportation services and users are most sensitive to flooding, wind, winter conditions, and landslides.

						Climate	e Hazard					
	Extrem	E ne Heat	Floo	ding	* C Dro	تح <sup>م</sup> ] ught	Ç	کے ind	\$ Winter C	onditions	Land	slides
Transportation Asset	1.1	S	1	S	1.	S	1.	S	1.1	s	1.1	S
Roads	Medium	Low	High	High	Low	Low	Low	High	Medium	High	High	High
Bridges	Medium	Low	High	High	-	-	Low	High	Medium	High	High	High
Culverts	-	-	High	High	Low	•	Low	•	Low	-	Medium	•
Rail lines/stations	Medium	Medium	High	High	-	-	Low	High	Medium	Medium	High	High
Bus system/ facilities		Medium	Low	Medium	-	Low	Low	Medium		High	Low	Low
Sidewalks		High		Medium	-	Low	Low	Low	Low	Medium	Medium	Medium
Rail trails	Low	High	High	High	-	Low	Low	Low	Low	Low	Medium	Medium
Regional airport	Medium	Low	NE	NE	Low	-	Low	Medium	Low	Low	NE	NE

# Phase 2: Asset-Level Analysis

Vulnerability of Specific Transportation Assets

• Deeper dive into flooding and landslide vulnerability for specific transportation assets

- Vulnerability is considered along two dimensions:
  - Is the asset in an area affected by a climate hazard? (e.g., in the floodplain)
  - Is the asset critical to the transportation system? (e.g., traffic volume, key destinations, equity area)



# Where are we vulnerable?

#### Findings from Phase 2: Asset-Level Analysis

Example:

- 180 = miles of roads with high vulnerability to flooding
- 6% = percentage of roads analyzed with high vulnerability to flooding

Prioritize high vulnerability scores for future adaptation investments by agencies

				Climate	Hazard						
		Floo	ding			Land	Islides				
Transportation Asset	High	Medium	Low	Not Vulnerable	High	Medium	Low	Not Vulnerable			
Roads (miles)	180 (6%)	337 (11%)	47 (2%)	2,490 (82%)	37 (1%)	77 (3%)	263 (9%)	2,678 (88%)			
Bridges	9 (3%)	20 (6%)	78 (21%)	259 (71%)	4 (1%)	7 (2%)	21 (6%)	234 (91%)			
Culverts	4 (1%)	19 (4%)	264 (57%)	177 (38%)		Not as	sessed				
Rail Lines (miles)	14 (11%)	78 (62%)	6 (5%)	28 (22%)	1 (1%)	11 (9%)	2 (2%)	122 (89%)			
Rail Stations	0 (0%)	3 (27%)	1 (9%)	7 (64%)	0 (0%)	3 (27%)	0 (0%)	8 (73%)			
Rail Trails (miles)	3 (7%)	23 (47%)	2 (3%)	20 (42%)		Not as	sessed				

# Thinking about transportation, which climate hazard concerns you the most?



### Resilient Ways Forward Map Viewer Review Results



*Poughkeepsie Waterfront (Hurricane Sandy)* 





#### Welcome to Resilient Ways Forward

An assessment of climate change and its impacts on transportation in Dutchess County



Route 44, Town of Amenia

 $\dot{\mathbf{x}}$ 

Loip our Virtual

English

### What can we do? Recommendations



# **Adaptation Measures**

- Focus on actions to help advance resilience efforts in Dutchess County
- Potential measures address concerns for high priority asset/hazard pairs and are for local, county, and state agencies to consider

Flooding	Landslides	Heat	Wind	Winter Conditions
<ul> <li>Roads</li> <li>Bridges</li> <li>Culverts</li> <li>Rail lines/</li></ul>	<ul> <li>Roads</li> <li>Bridges</li> <li>Rail lines/</li></ul>	<ul> <li>Sidewalks</li> <li>Rail trails</li> </ul>	<ul> <li>Roads</li> <li>Bridges</li> <li>Rail lines/</li></ul>	<ul> <li>Roads</li> <li>Bridges</li> <li>Bus systems/</li></ul>
stations <li>Rail trails</li>	stations		stations	facilities



# Adaptation Toolbox

# Provides **infrastructure owners and managers** with **40** potential adaptation measures to consider

Adaptation Measure	S				
Select hazard(s) and asset(s) of interest and press the 'Filter by hazard' and 'Filter by asset' buttons to update the table	Select hazard(s):		Filter by hazard	Reset all filters for the table below:	Reset filters
below. To select multiple hazards, use the hazard drop down at right to select each hazard of interest. To select multiple assets, use the asset droo down at right to select	Select asset(s):		Filter by asset		
		Climate Hazard Belev	ant Asset(s) and Adapt	ation Measures	
Climate Hazard 🖵	Category of Measure	Relevant Asset(s)	Gray Engineering vs. N 👻	Adaptation Measure	Description 🗸
					· · · · · · · · · · · · · · · · · · ·
Flood (I&S)	Plan and Prepare	Roads, Bridges	N/A	Prohibit overweight/oversized vehicles	Prohibit heavy loads on weakened pavements in the immediate aftermath of a flooding event to prevent sudden failure or severe damage. Identify appropriate re-route plan (next measure).
Flood (I&S)	Plan and Prepare	Roads, Bridges	N/A	Identify evacuation routes for highly vulnerable assets and critical transportation routes	Identify select transportation routes that can remain reliably traversable in the event of severe flood events.
Flood (I&S), Landslide (I&S)	Maintain and Manage	Culverts	N/A	Increase maintenance schedule to clear vegetation and debris from culverts, where debris accumulation is problematic	Clear vegetation and debris from drainage systems and clear drains more frequently to prevent clogging and flooding, especially before major storms. Determine appropriate maintenance schedule based on site-specific considerations.
				Structurally played law bing	Elevate bridges to prevent inundation and reduce

Strengthen and Protec

#### Flooding

There are 21 potential measures to reduce flood risk to roads, bridges, culverts, rail lines/stations, and rail trails. These measures can help reduce flood risks to both physical infrastructure and services/operations. Certain measures in this section also help reduce risks associated with landslides and winter conditions (these are indicated with a \* under the table).

#### Plan and Prepare



#### 1. Prohibit overweight/oversized vehicles



Prohibit heavy loads on weakened pavements in the immediate aftermath of a flood event to prevent sudden failure or severe damage. Identify an appropriate re-route plan (next measure).

Source. Stock photo

2. Identify evacuation routes for highly vulnerable assets and critical transportation routes



critical transportation routes

Identify select transportation routes that can remain reliably

traversable in the event of severe flood events.

Source: iStock

#### Maintain and Manage



3. Increase maintenance schedule to clear vegetation and debris from culverts, where accumulation is problematic

Clear vegetation and debris from drainage systems and clear drains more frequently to prevent clogging and flooding, especially before major storms. Determine appropriate maintenance schedule based on site-specific considerations.

Source: Cloud9Service

\*This measure can also help reduce landslide risk by reducing surface runoff.

## Factors for Consideration

<b>Capital Costs</b> What are the initial costs to implement the measure?	<b>Operations &amp; Maintenance</b> What is required to maintain the measure over its useful lifespan?	<b>Effectiveness</b> How effective is the measure to mitigate vulnerability?
<b>Flexibility</b>	<b>Barriers to Implementation</b>	<b>Equity Considerations</b>
Does the measure allow for	What obstacles prevent the	What should be considered to
modifications to scale up or	measure from being effectively	ensure that the measure is
down?	implemented?	equitable?



# **Policy Actions**

- Local agencies can also consider policy actions to improve resilience
- Sample policy actions include:
  - Reliable and consistent emergency alert systems for extreme weather events
  - Real-time sensor technologies and monitoring programs
  - Updated emergency plans with recovery actions/plans for extreme events



### **Poll Questions**

#### 6 questions related to adaptation measures

• Your feedback will help us finalize the adaptation toolbox



One adaptation measure is to implement reliable and consistent emergency alert systems for extreme weather events.

How would you prefer to get emergency alerts about extreme weather events?



Which **heat** adaptation measure would you be most excited to see implemented?



Which winter conditions adaptation measure would you be most excited to see implemented?



Which **flooding** adaptation measure would you be most excited to see implemented?



Which **landslide** adaptation measure would you be most excited to see implemented?



Which **policy** measure would you be most excited to see implemented?



#### Resilient Ways Forward www.ResilientWaysForward.com

- Climate Change Fact Sheet bit.ly/RWF FactSheet1
- Vulnerability Assessment Fact Sheet <u>bit.ly/RWF\_FactSheet2</u>
- Online Map Viewer gis.dutchessny.gov/resilient-ways-forward
- Today's presentation will be posted to the website

ow is					-								
	the climate chan	ging?	Step 1: D	Data	I Co	llec	tion						
become n	ore resilient to climate change, i on our transportation system.	we need to better	understand regio	onal cli	mate t	rends a	and the	8					
imate	Hazard Summary fo	or Dutchess	County										
Hazard	Current	Futi			10.00								
mperature	Average annual temperature has increased by nearly 3°F since 1960     High temperatures occur with greater frequency and intensity	Average temperation     to rise     More extreme ten     occur	Resilie Transport changing	ent tatic clin	Wa on pl nate	ays Ianni	Fo ing f	oro	aro ur			<	
Flooding	<ul> <li>Many estimate previous frame year</li> <li>Many estimation events</li> <li>Houdson River water level has risen more than one foot since 1900</li> </ul>	<ul> <li>Precipitation will increasingly varial</li> <li>More frequent an rain events</li> <li>Sea level rise and along the Hudson frequently</li> </ul>	Where are The Dutchess Count Forward, that identi	e we	vulr ortation	Council (	DICTC) is p	veparing m is most	a Climate	• Vulnera	bility Asse	Pha: essment, t	Se 1
	<ul> <li>Notable flash droughts in 2002, 2013 and 2003</li> </ul>	a company and the second	find ways to reduce	and ada	of to the	advanta	imparts o	n our tra	nenortati	on system	n. The Ph	ase 1 Syste	m-L
ि र र भ Drought	2017, and 2022.	precipitation	the sensitivity of var identifies specific as Measuring Se The Phase 1 System-	rious con ssets and ensiti	nponent location vity alysis ev	s of the tr s where t	ransporta the transp	tion syste ortation	m to spe system is ansporta	tion system	ete hazaro nerable ti em is to si	ds. The Phi o the impa x climate l	acts o
Drought	- Multiple high wind events	Greater potential as intensity of hur storms, and tropic increases	the sensitivity of var identifies specific as: <b>Measuring So</b> The Phase 1 System- flooding, drought, w a scale of low, media transportation infras sensitive to flooding	rious con ssets and -Level ar vind, win ium, or h istructure g, wind, v	nponent location vity halysis ev ter cond igh, focu is most winter co	aduetse s of the tr s where t raluates h itions, an sing on th sensitive inditions,	the transporta the transp tow sensiti d landslid to floodii and lands	tion syste cortation tive our tr les. For ex rity of phy ng and lar slides.	m to spe system is ansporta ach type i ysical infr ndslides,	tion system tion system of transpo astructure while transpo	ate hazaro nerable to em is to si ortation a e and ser nsportatio	ds. The Phi o the impa x climate l sset, sensi vices/user on services	hazar tivity expe s and
	Multiple high wind events     Winters have warmed 3s faster     than summers	Greater potential a: intensity of hur storms, and tropic increases     * Fewer days below Greater snowfall c winter storm ever	the sensitivity of var identifies specific as <b>Measuring So</b> The Phase 1 System- flooding, drought, w a scale of low, media transportation infras sensitive to flooding	ensiti ensets and ensiti -Level ar wind, win um, or h structure g, wind, v	nponent location vity halysis ev ter cond igh, focu is most winter co	aduates h s where t raluates h itions, an sing on th sensitive inditions,	the transporta the transp tow sensiti d landslid to floodi and land:	tion syste portation : live our tr les. For ea rity of phy ng and lar slides.	ansporta ach type o siscal infri ndslides, f Climate	tion syste of transpo astructure while tran	en hazard nerable ti em is to si ortation a e and sen nsportatio	Is. The Phi o the impair x climate I sset, sensivices/user on services Winter C	hazar itivity expe s and
Drought	Multiple high wind events     Multiple high wind events     Written have warmed 3s faster     than summers     Later snowfall and earlier snowmelt	Greater potential as intensity of hur sitems, and thus storms, and thus increases     * Fever days below * Greater snowfall c whiter storm ever	the sensitivity of vari identifies specifica 3: Measuring Si The Phase 1 System flooding, drought, w a scale of low state of low dist transportation infrar sensitive to flooding Transportation Asset	rious con ssets and ensiti -Level ar vind, win jum, or h structure g, wind, v Extern L	nponent location vity nalysis ev ter cond igh, focu è is most winter co	adverse s of the tr s where t ratuates h itions, an sing on th sensitive inditions,	the transporta the transp tow sensitive to floodia and lands data	tion syste cortation : live our tr les. For ex ity of phy g and lar slides.	ansporta ansporta ach type ( ysical infr ndslides, * Climate ** set \$	tion syste of transp astructure while transp Hazard	ete hazard nerable ti em is to si ortation a e and ser insportatio	ts. The Phi o the impa x climate l sset, sensi vices/user on service: Winter C	hazar hazar itivity expe s and
Drought Drought Wind Winter onditions	- Multiple high wind events - Multiple high wind events - Winters have warmed 3s faster than summers - Later snowfall and earlier snowmelt - Southern and eastern parts of Datchers County at his due to steep slopes -	Conject period in precipitation     Greater potential as intensity of hur storms, and topic increases     Frence days below     distribution days where a soundal (     wishter storm even     wishter storm even     Procipitation drive     could occur more	the sensitivity of war identifies specific as Measured States and States The Phase 1 System flooding, drought, as called flow, media transportation infra a scale of low, media transportation infra sensitive to flooding Transportation Reads & M Reads & M Reads & M Reads & M	rious con ssets and ensiti -Level ar vind, win um, or h structure g, wind, v Extreme I Verdium Verdium	nponenti location vity halysis ev ter cond igh, focu is most winter co Heat S Low Low Low	aduates h itions, an sing on th sensitive inditions, Floo High High High High	ansporta the transp ow sensiti d landslid e sensiti to floodii and lands ding S High High High High	tion syste cortation : five our tr les. For ea ity of phy ng and lar slides.	ansporta ansporta ach type ( sical infr ndslides, Climate S Low - - - -	cific clima most vul tion syste of transpo astructure while tran Hazard Hazard Low Low Low Low	em is to si portation a e and sern hsportation S High High High	ts. The Phi o the impa x climate I sset, sensi- vices/user on services Winter C I Medium Low Medium	acts of hazar tivity expension and the second secon
Drought	Aulty, and zozz.     Multiple high wind events     Winters have warmed 3s faster     than summers     Later snowfall and earlier snowmelt     Southern and eastern parts of     Dutchers County at rist due to     steep slopes	Conject period in precipitation     Greater potential as intensity of hur storms, and tropic increases     Frever days below     winter storm ever     winter storm ever     Presignation drive could occur more	the sensitivity of war identifies specific as Measurements of the phase 1 System flooding, drought, as called flow, medi transportation infra sensitive to flooding Transportation Reads M Reads M Reads M Reads M Reads M Reads M	rious con sets and ensiti -Level ar wind, win uum, or h structure g, wind, v Extreme l kodium kodium kodium -Low	nponenti location vity halysis ev er cond ggh, focu is most smost vinter co s tow Low Low Low Low	aduates h itions, an sing on th sensitive inditions, floo l High High High Liow	ansporta the transp tow sensiti d landslid es sensiti to floodii and landslid es sensiti to floodii to flood	tion syste ortation : five our tr les. For ex- rity of phy g and lar slides.	Climate S Low	tion syste of transpo astructure while tran Hazard Low Low Low Low	ern is to si ortation a e and sen nsportation ind S High High High Midsium	s. The Pho o the impate set, sensivices/user on services Winter C I Medium Medium Low	acts of acts o
Drought Urought Wind Winter andislides	- Multiple high wind events - Multiple high wind events - Winters have warmed 3s faster than summers - Later snowfall and earlier snowmelt - Southern and eastern parts of Dutchess County at risk due to steep slopes -	Congrege performance     Forcepter performance     Grouter potential     as intensity of hur     storms, and toppi     increases     Forever days below     Grouter secondal i     winter storm over     vecipitation drive     could occur more	the sensitivity of war identifies specific as Measurement of the specific as The Phase 1 System flooding, drought, as called of low, medi transportation infras sensitive to flooding Transportation as called of low, medi transportation infras sensitive to flooding Roads M Roads	rious con ensisti P-Level ar wind, winink, winink, g, wind, v Externation g, wind, v Externation kadium - kadium - kadium - Low Low	ponenti location vity halysis ev ter cond igh, focu is most is most vinter co Heat Low Low - Hodum - Medum Medum	aluates h itions, an itions, an itions, an itions, rice rice rice rice rice rice rice rice	ansporta e ransporta the transp ow sensiti to floodin and lands ding S High High High High Medium	tion syste ortation : live our tr les. For ea ity of phy ng and lar slides. Drov I Cow - - -	ansporta ansporta sch type te siscal info dislides, v Climate S S Low Low Low Low	tion system tion system astructure while transport transport astructure while transport transport while transport transport while transport transp	ate hazard nerable to em is to si ortation a e and sen hsportatio	s. The Pho o the impate set, sens vices/user on services Winter C I Medium Low Low	acts of a control
Drought	Multiple high wind events     Multiple high wind events     Winters have warmed 3s faster     than summers     Later snowfall and earlier snowmelt     Southern and eastern parts of     Dutchers County at risk due to     steep slopes	Conject performance     Forceast potential     as intensity of har-     storms, and toppi     increases     Forceast days below     Greater secondal (     winter storm over     vecipitation drive     could occur more	the sensitivity of war identifies specific as Measured as the specific as The Phase 1 System flooding, drought, as called of low, medi transportation infra a scale of low, medi transportation infra sensitive to flooding Transportation Rail specific as Rail spe	rious con ssets and ensiti -Level ar structure structure structure structure b con con con con con con con con con con	nponent location vity halysis ev ter cond igh, focu is most is	aluates h aluates h aluates h aluates h aluates h sensitive filons, an filons,	ransporta ranspo	tion syste contrations live our transformed live our transformed lives. For etc. Sides. Dosonal Low Low Low	constructions of the second se	file climar most vul tion syste of transpart while transformed to the Low Low Low Low Low Low Low	em is to si em is to si e and see response ind S High High Aledium Liow Liow	Is. The Phi o the impaid solution of the impaid solution of the impaid solution of the impaid winter C Winter C Winter C I Medium Low Low Low Low	Acts of acts o
The second secon	Multiple high wind events     Multiple high wind events     Winters have warmed 3s faster     than summers     Later snowfall and earlier snowmelt     Southern and eastern parts of     Dutchase County at risk due to     steep slopes	Conject potential     as intensity of hur     storm, and toppi     forcater potential     as intensity of hur     storm, and toppi     increase     Freeer days below     Greater snowfall     whiter storm over     vecipitations drive     could occur more	the sensitivity of war identifies specific as the Phase 1 System flooding, drought, drought, drought transportation infra sensitive to flooding Transportation infra sensitive to flooding Transportation	rious cor ssets and ensiti h-tevel ar vind, wind	ponent location vity halysis ev ter cond ter cond is most winter co keet s s Low Low Low Low Low Low Low Low Low Low	aluates h raluates h ritions, an ritions,	napector anasporta now sensiti- to floodil ese sensiti- to floodil and landsi ese sensiti- to floodil ese sensiti- to floodil ese sensiti- to floodil ese sensiti- to floodil Medium Needium NE	tion syste ortation : ive our tri ive our	Cimate sisten is shown to spee shown to spee	The second secon	em is to sile transition an eard server ssportation High High Netlium Low Low Medium	5. The PhD the impair c climate le sset, sensi vices/user winner C l Medium Medium Low Low Low Low	Acts of the second seco
Vinter andislides	Multiple high wind events     Winters have warmed 1s faster     than summers     Later snowfall and earlier snowmelt     Southern and eastern parts of     Durchers County at risk due to     steep slopes	Groater potential a: Intensity of hur storms, and tropi intensity of hur storms, and tropi intensity     Greater anovail a winter storm need · Presignation drive could occur more	the sensitivity of variate the specific as a	rious con sests and ensiti h-tevel ar vind, winn, or h http://winn.or http://winn	ponent location vity halysis ev ter cond ter con	alutesis of the te s where t ralutes h hittons, an sing on th sensitive nditions, no nditions, ndittions, ndittions, ndittions, ndittions, ndittions, ndittions, n	ransporta ransporta void sensitiv es sensitiv to filocoli and landsli es sensitiv to filocoli sensitiv	tion syste contration : ive our tri ive our tri ity of phy ng and lar sites. Dooroon Convert Conver Co	Climate spystem is shown to spee system is shown to spee system is spystem is	Final Sector Sec	em is to sia entition an activity of the entition and entities of the entities	5. The Physical Control Contro	hazar tivity expr s and ondili S Hi Hi Hi Med



the full repo

www.ResilientWaysForward.com

CT

e. This will help u vel Report analyze Asset-Level Report

climate change

is measured or

rience. Physical users are most

#### Q & A





# Stay Engaged

- Send a comment or question
- Sign up for email updates <u>bit.ly/DCTC\_EmailUpdates</u>



<u>www.ResilientWaysForward.com</u> <u>dctc@dutchessny.gov</u> (845) 486-3600

Dutchess County Transportation Council 85 Civic Center Plaza, Suite 107 Poughkeepsie, NY 12601



### Thank you!

Resilient Ways Forward Transportation planning for our changing climate dctc