INFORMATIONAL WEBINAR

FREESTATE
Middle Mile Network

KANSAS BROADBAND PLANNING

Kansas
Department of Commerce
Office of Broadband Development
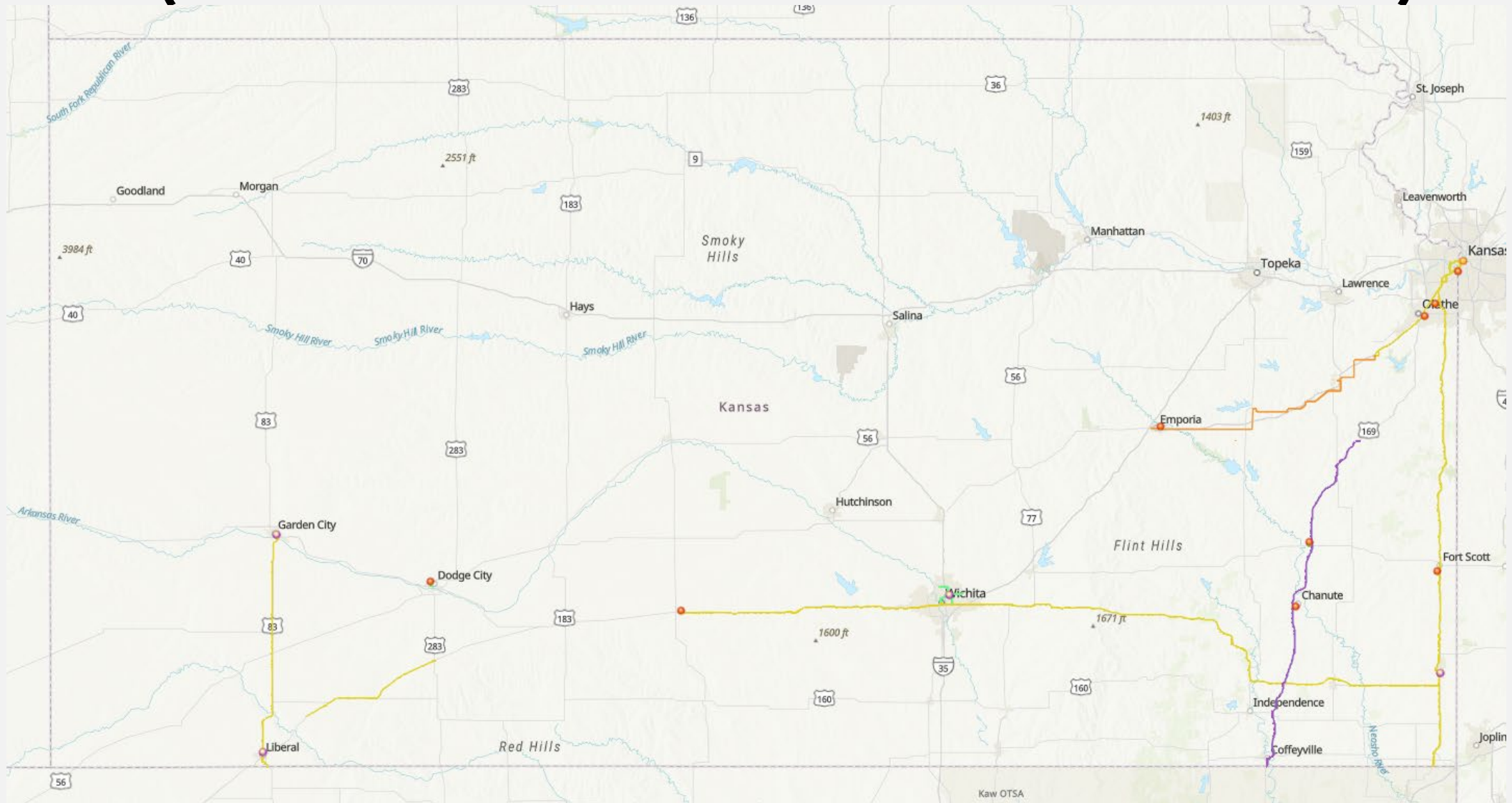
AGENDA

KANSAS BROADBAND PLANNING

Goals
- Educate providers on how to use network
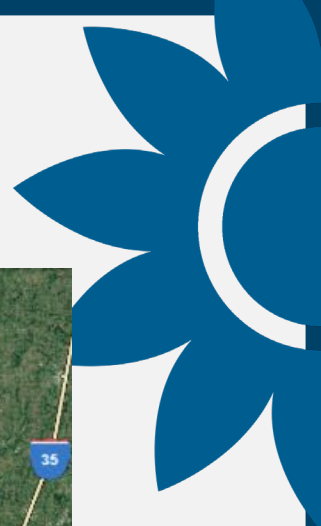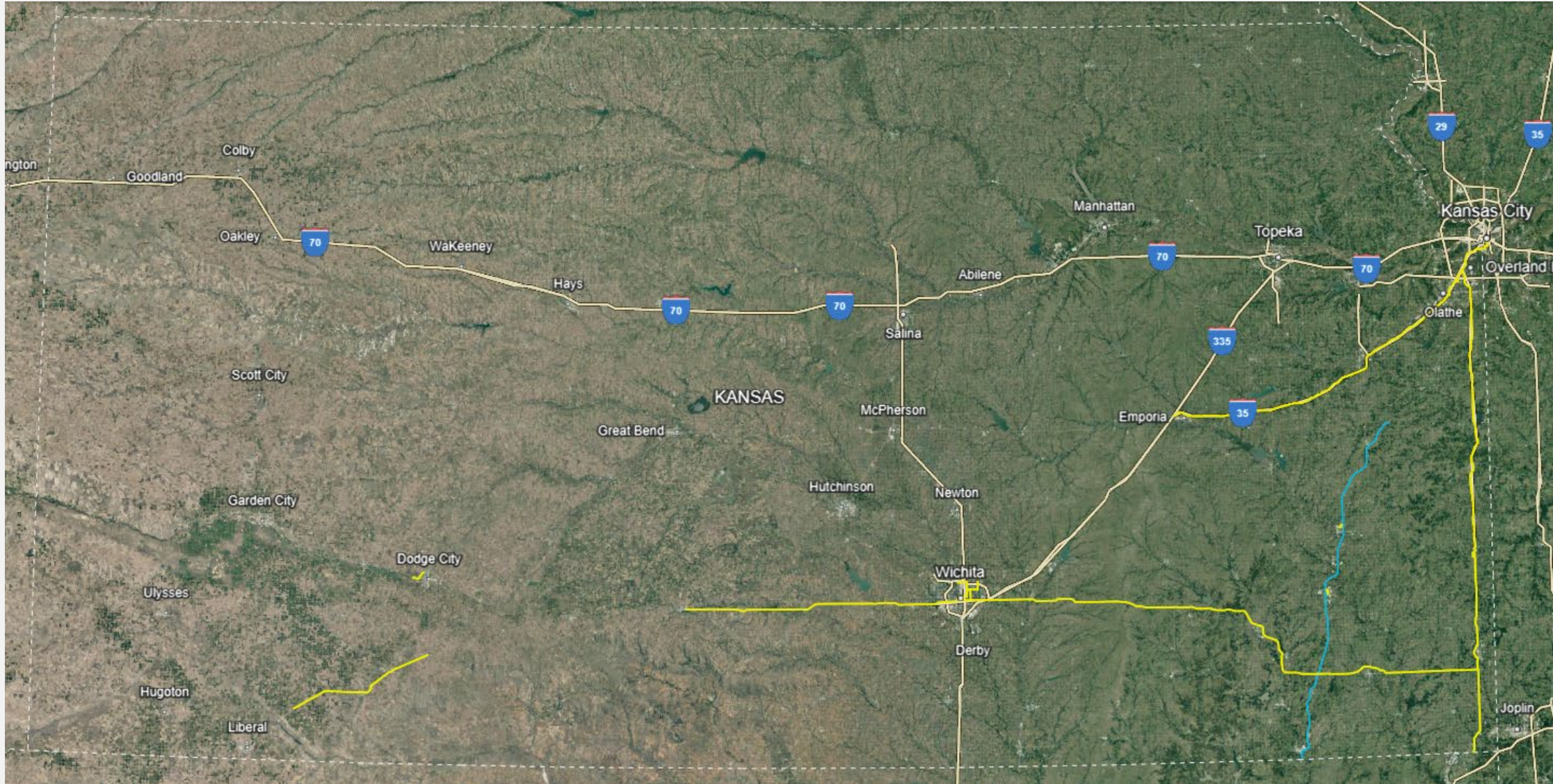- Get provider feedback

Project Overview
- Map
- Partners
- Asset Allocation & Design
  - Dark
  - Lit
  - Duct
  - ILAs
- Timeline
- Q & A

FREESTATE NETWORK MAP
(ORIGINALLY PROPOSED FEDERAL BUILD)

FREESTATE NETWORK MAP
(FEDERALLY FUNDED PIECES)

Partners

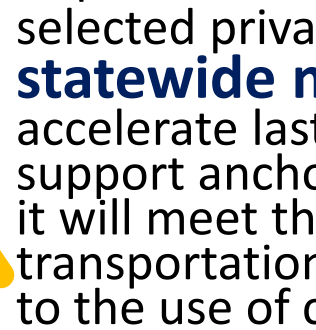| Organization	Role	Responsibilities
Kansas Dept. of Commerce Office of Broadband	Recipient	Pass-through entity, monitoring, compliance, reporting, oversight
Kansas Dept. of Transportation **(Owner of network infrastructure)**	Subrecipient	Land-owner, owner of infrastructure after expiration of federal obligations, construction project oversight.
IdeaTek	Partner Contractor to KDOT	Design, Engineering, and Construction. Manages the operations and maintenance of the infrastructure for KDOT
Connected Nation (Interim)	Partner (contractor of KDOT)	Neutral arbiter of open access duct infrastructure policies, administration, operations of some network equipment.
KanREN	Partner (tenant on network)	Developed application, will use (2) pairs of dark fiber in KDOT innerduct(s) for backbone access to serve member Community Anchor Institutions (CAIs)
CTC Technology & Energy	Consultant	Grant writing, Post Award Compliance, Reporting

Open Access.
Who can use the network?
Federal Goals + Program Intent

NTIA Notice of Funding Opportunity (NOFO): The purpose of the grant program is to **expand and extend middle mile infrastructure to reduce the cost of connecting areas that are unserved or underserved to the internet backbone**.
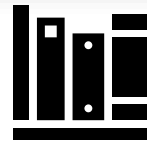
KOBD APPLICATION: The State of Kansas Department of Commerce (Applicant) and Department of Transportation (a subrecipient "KDOT") propose to work with competitively selected private partners to design, build, maintain, and operate an **open-access statewide middle-mile network** that will serve multiple key goals: First, it will accelerate last-mile expansion in unserved and underserved areas of the State; second, it will support anchor institutions statewide, including higher education and public safety; and third, it will meet the needs of KDOT for next-generation communications services for public safety, transportation management, automated vehicle connectivity, and other innovations related to the use of communications services by KDOT.

Open Access:
Who can request access?

| Providers authorized to provide last-mile services in Kansas. | Providers providing last-mile broadband services to Community Anchor Institutions. | State, local and tribal governments in support of transportation, public safety, or other communications services. |

Open Access?
Who can use the network?
Example of requests that would meet goals and likely be approved

- Provider A requests access to a pair of dark fiber and provides justification and a plan describing how this 14 km segment will be utilized to enable (or augment) service to 120 BSLs in Bourbon County and Linn County KS.

- Provider B requests access and provides justification/plan describing how this 220km segment will be used to provide a 2nd, redundant connection from their C.O. to the IXP at 1102 Grand for upstream service. Will improve the redundancy and enhance the availability of their service to (1,200) BSLs in their service area .

Kansas

last-mile providers

Open Access?
Who can use the network?
Examples of requests that might require additional review and may not be approved

- National (or multinational) content and services provider (think Amazon) requests a dark fiber IRU from the furthest west leg of the network all the way to 1102 Grand (full network length). Stated purpose is solely to supplement and augment their national or international transport backbone. No last mile service delivery provided in KS
  - *Does this serve the stated purpose of enabling affordable last mile builds in KS?*
  - *Does it serve the purpose of enabling or enhancing service to Community Anchor Institutions?*
  - *Does it serve the purpose of enabling or enhancing the connectivity of municipalities or government agencies?*
- Request from KS provider to lease 2 of the open ducts over 200km without a plan to provide last mile services on that infrastructure.
  - *No intent to pull fiber immediately for much of the path.*
  - *Longer term plans to develop that resource or re-sell it to other providers.*
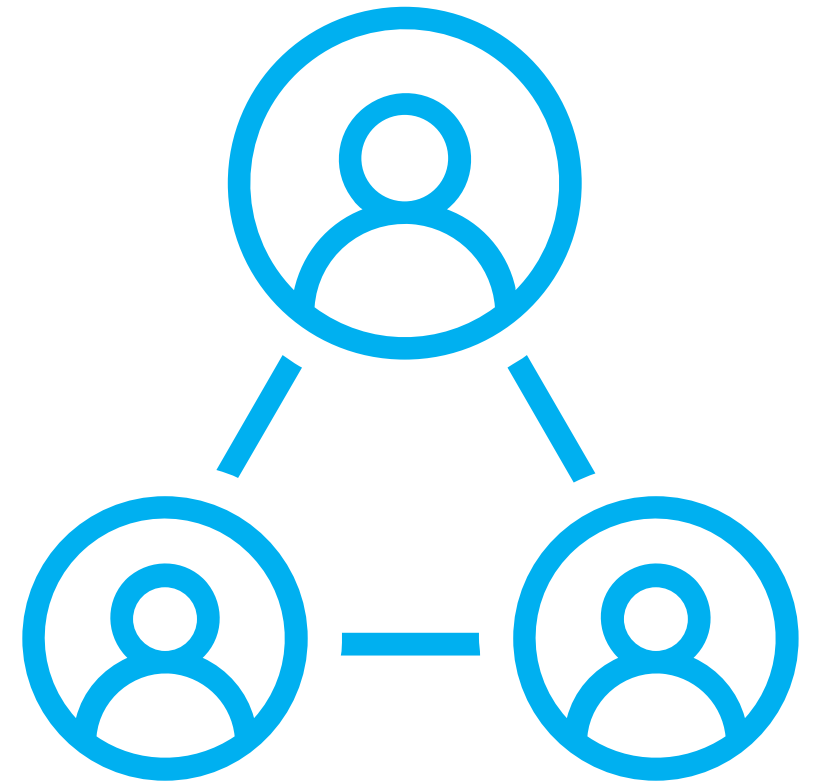
Kansas
last-mile
providers

Open Access: Who will manage?

Depends on Assets

- Dark/Lit: IdeaTek
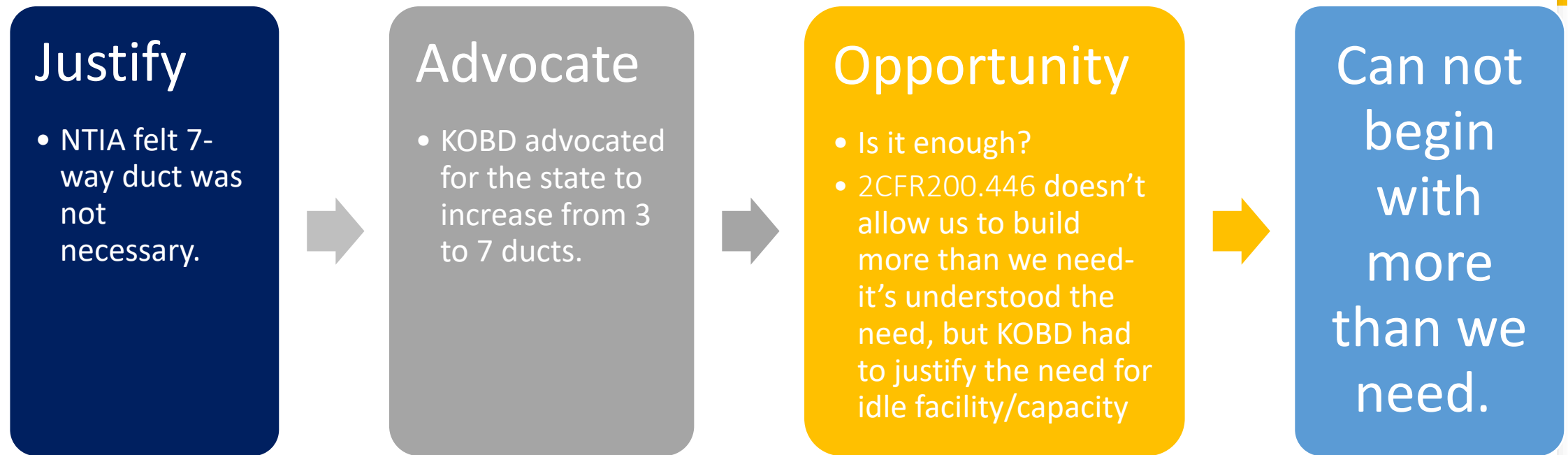- Open Innerduct: Connected Nation

Review Board

- Quickly review requests for access
- Protect Nature of Program
- Protect Partners
- Protect State

Idle Facility & Idle Capacity
Uniform Guidance

Justify
- NTIA felt 7-way duct was not necessary.

Advocate
- KOBD advocated for the state to increase from 3 to 7 ducts.

Opportunity
- Is it enough?
- 2CFR200.446 doesn't allow us to build more than we need- it's understood the need, but KOBD had to justify the need for idle facility/capacity

Can not begin with more than we need.

FREESTATE MIDDLEMILE NETWORK
seven-way innerduct

Kansas
Office of Broadband Development

KANSAS BROADBAND PLANNING

KDOT KDOT
OPEN Dark & Lit Services OPEN
OPEN OPEN

Ducts:
What's available?

KDOT
- 2 ducts reserved
  - 1 duct = 96 count fiber bundle for KDOT use
  - 1 duct = for future expansion or redundancy (idle)

Dark & Lit Services
- 1 duct = varies depending on distance to metro area
  - 96 count - rural
  - 144 count – approaching metro
  - 288 count – dense metro

OPEN
- 4 ducts available
  - **last-mile providers** who wish to pull their own fiber
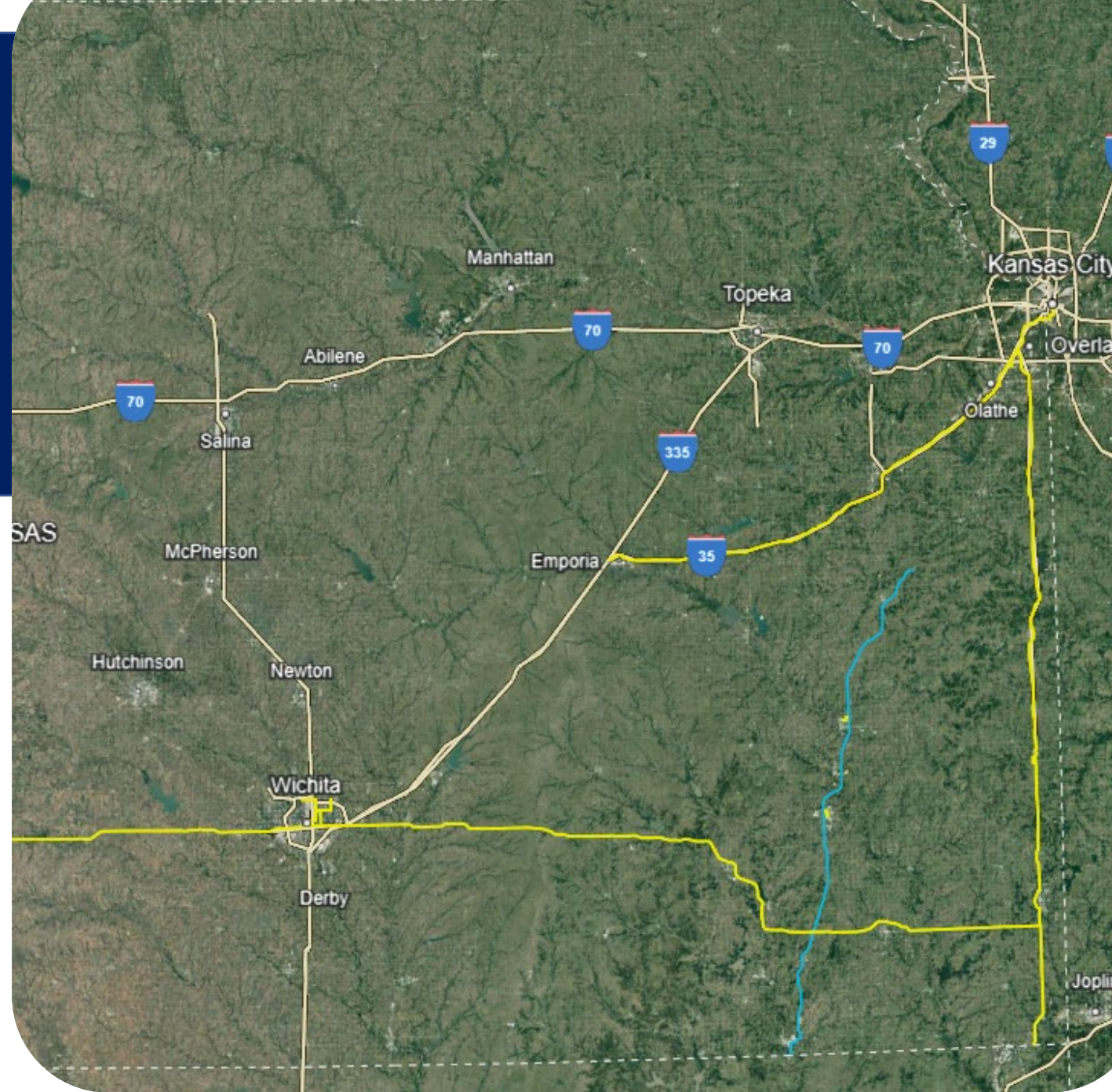
Dark Fiber
Available along each portion of the network

- **Blue & yellow routes to have dark fiber IRU available**

- **Standard Terms and Conditions**
  - traditional five- or ten-year IRU
  - Some conditions negotiated separately at additional costs
    (requiring power, space, or additional SLA or service conditions)

- **Public Pricing**
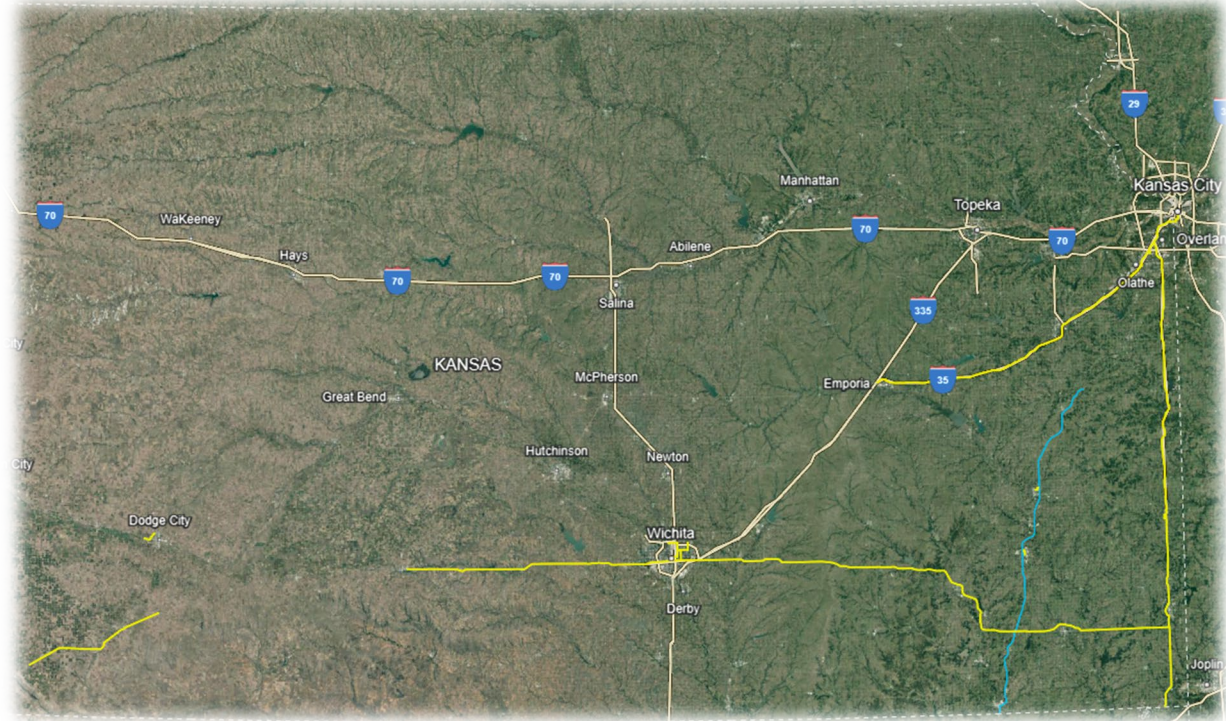 - based on route mile (or ft. Or km)

Lit Services:
Available along each portion of the network

- **Available**

  (Segments of Blue and Yellow)

- **Terms and Conditions**

  (Consistent with a standard lit service contract)

  - Some conditions negotiated separately at additional costs
    (requiring specific framing types, protection, or additional SLA or service conditions)

- **Public Pricing**

  - Based on unprotected route mile (or ft. Or km)

Duct Lease:
Available along yellow routes only

Public Pricing

- based on route mile
  (or ft. Or km)
- Some conditions negotiated separately at additional costs
  (requiring specific equipment space, power at locations, or additional SLA or service conditions)

(Proposed) ILA
Design Consideration

|		
📍	**Located**	Every 60-80 kilometers
🌉	**Currently being evaluated**	
👷	**Change Considerations**	No new federal funding available May require NTIA approval for changes
🏙️	More information on ILA design considerations will be shared in future webinars.	

Interconnection opportunities
Physically gaining access to the network

Handholes for fiber path access
- Approximately every 2,500 feet
- Intersections: major + most minor
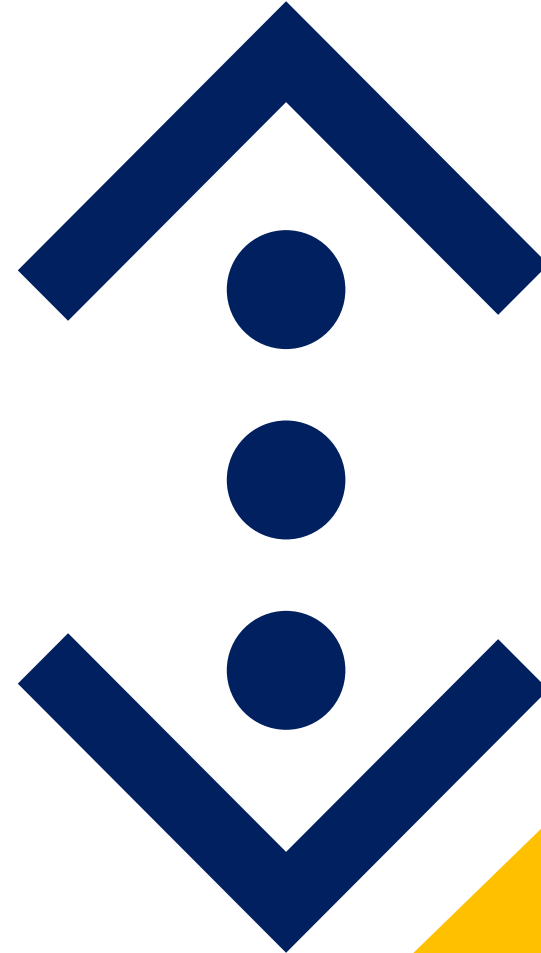
If you can get your OSP fiber to the MM fiber route, you can take advantage.

TIMELINE AND MILESTONES

Milestone	Anticipated Dates	Description
Project Kickoff	Coming soon – June timeframe	On completion of EHP/EA and receipt of FONSI, construction can begin, and a celebration will commence
Environmental, Historic, and Tribal Reviews	Began Q1 2024 Anticipated approval May-July 2024	As part of EHP/EA process notice will be sent out and comment/feedback windows will be opened for SHPOs, tribal entities, federal and state environmental agencies for comment and feedback on our reports and proposed activities
6 Month Expenditures Approved	April 2024	Report is finalized and approved by NTIA/NIST. We now have a portion of our funding allocation. Not allowed to begin construction until FONSI is final.
Design and Engineering	Began shortly after award notification	Ongoing and is being led by KDOT staff in cooperation with builder/contractor.
Construction Begins	Summer 2024	This is currently just a projection, contingent on FONSI approval.
Proposed End	Spring/Summer 2028	This proposed end include more than construction, it also includes, access policy development, marketing, promotion, ISP signups, etc.

Proposed 2024 pricing
(in progress)

Open Access/ Non-discriminatory

- Fair
- Wholesale rates
- Market rate request in your follow up survey

Dark Fiber Price Matrix					
	Rural/fm	Rural-High Cost	Urban/fm	Super Urban/fm	Access Point Fee
Monthly 5yr	$28.80	$40.50	$50.40	$150.60	$3500ea
Monthly 10yr	$19.80	$32.50	$44.50	$132.50	$3500ea

*Fiber access fee includes spliced tail to leasee's facility

**Prices are per fiber mile (fm), 2 fiber minimum, minimum contract cost $500/mth before matrix pricing starts

***Note - prices are a projection and may change based on economic influence and or other operational factors

****All prices are subject to CPI increase as well as customary surchages and taxes

LIT Transport Price Matrix						
	10G	20G	50G	100G	Circuit Install Fee	Access Point Fee
Monthly 5yr	$890	$1,450	$2,580	$4,250	$500	$3500ea
Monthly 10yr	$710	$1,180	$2,300	$3,610	$500	$3500ea

*LIT prices are for longhaul transport services not service delivery locations

**Prices shown are subject to change based on economic influence

***All prices are subject to CPI increase as well as customary surchages and taxes

****Access point fee is only required if needing to connect along network fiber path instead of PoP site

Updated pricing for duct is still in development.

Opportunities

Drive long-term asset planning.

Questions + Feedback

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