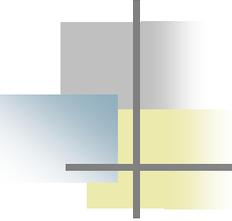


# Nebraska Public Service Commission Application No. NUSF-77 September 10, 2013

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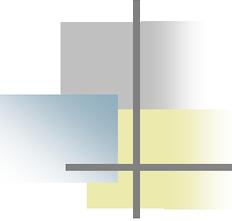
Tyler Frost  
Nebraska Broadband Program Scoring Model  
NUSF-77 Technical Conference  
Lincoln, Nebraska



# NEBP Definitions

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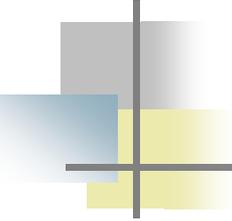
- Broadband is service that provides consumers with a minimum actual download speed of 4 Mbps and upload speed of 1 Mbps.
- Unserved is any area where no facilities-based provider offers access at speeds greater than 56K.
- Underserved is any area where a facilities-based provider offers access at speeds greater than 56K down but less than broadband.
- Comparable access is universal broadband service access to one fixed and one mobile broadband provider.



## NEBP Goals & Objectives

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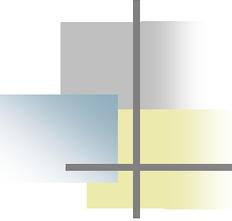
- Target broadband support to unserved and underserved areas.
- Universal, comparable, availability of voice telecommunications and broadband services.
- Ensure broadband support is focused on providing quality high-speed services to consumers in all regions of Nebraska.



# NEBP Scoring Model Requirements

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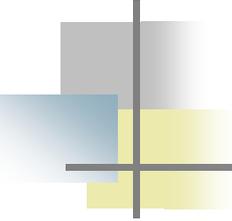
- Competitively and technologically neutral
- Prioritize unserved, then underserved
- Incorporate Variables;
  - Retail price
  - Cost per household
  - Households
  - Density
  - Consumer Benefit
- Utilize SBI Map as “starting point”



## NEBP Scoring Model - Data

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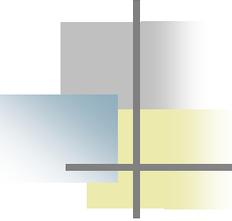
- Population/Households/Area
- Current Broadband Coverage
- Project Specific;
  - Retail Rates
  - Total Cost
  - Area to be served



# NEBP Scoring Model – Group Assignment

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- Group 1 – Unserved Projects
- Groups 2 – 4
  - Hybrid Projects
  - Total Project Cost – Natural Breaks
    - Group 2  $\leq$  Break 1
    - Break 1  $<$  Group 3  $\leq$  Break 2
    - Group 4  $>$  Break 2



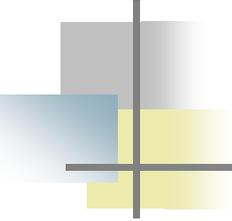
# NEBP Scoring Model

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$$ProjectScore_i = \left[ \left( \frac{\%UnUnderServedArea_i}{Max(\%UnUnderServedArea)} \right) * Service_w \right] +$$

$$\left[ \left( \frac{Min \left( \frac{RetailRate}{Mbps} \right)}{\frac{RetailRate_i}{Mbps_i}} \right) * Value_w \right] + \left[ \left( \frac{Min \left( \frac{Cost}{Mbps * HH} \right)}{\frac{Cost_i}{Mbps_i * HH_i}} \right) * Scale_w \right] +$$

$$\left[ \left( \frac{Min \left( \frac{Cost}{HH} \right)}{\frac{Cost_i}{HH_i}} \right) * Cost_w \right] + \left[ \left( \frac{Min \left( \frac{HH}{SqMi} \right)}{\frac{HH_i}{SqMi_i}} \right) * Rural_w \right] + \left[ \left( \frac{HH_i}{Max(HH)} \right) * Scope_w \right]$$



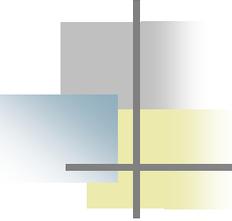
# NEBP Scoring Model – Criteria & Weights

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- Service

$$\left[ \left( \frac{\%UnUnderServedArea_i}{Max(\%UnUnderServedArea)} \right) * Service_w \right]$$

- Function of unserved and underserved area within the project, as determined utilizing the NE Broadband Map.
- $Service_w = 25\%$



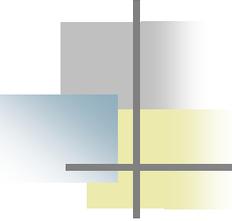
# NEBP Scoring Model – Criteria & Weights

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## ■ Value

$$\left[ \left( \frac{\text{Min} \left( \frac{\text{RetailRate}}{\text{Mbps}} \right)}{\frac{\text{RetailRate}_i}{\text{Mbps}_i}} \right) * \text{Value}_w \right]$$

- Function of applicant's end-user rates and speed of service to be provided at said rate.
- $\text{Value}_w = 15\%$



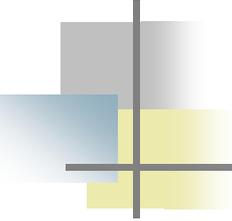
# NEBP Scoring Model – Criteria & Weights

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- Scale

$$\left[ \left( \frac{\text{Min} \left( \frac{\text{Cost}}{\text{Mbps} * \text{HH}} \right)}{\frac{\text{Cost}_i}{\text{Mbps}_i * \text{HH}_i}} \right) * \text{Scale}_w \right]$$

- Function of project request amount, speed, and total households within project area.
- $\text{Scale}_w = 5\%$



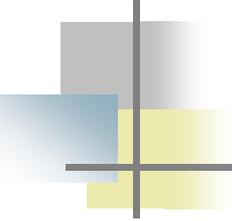
# NEBP Scoring Model – Criteria & Weights

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- Cost

$$\left[ \left( \frac{\text{Min} \left( \frac{\text{Cost}}{\text{HH}} \right)}{\frac{\text{Cost}_i}{\text{HH}_i}} \right) * \text{Scale}_w \right]$$

- Function of project request amount and total households within project area.
- $\text{Cost}_w = 25\%$



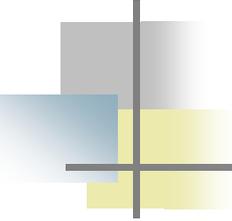
# NEBP Scoring Model – Criteria & Weights

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- Rural

$$\left[ \left( \frac{\text{Min} \left( \frac{HH}{SqMi} \right)}{\frac{HH_i}{SqMi_i}} \right) * Rural_w \right]$$

- Function of total households within project area and square mileage of project area.
- $Rural_w = 5\%$



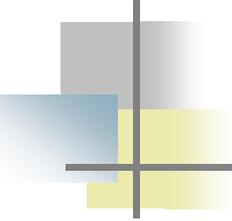
# NEBP Scoring Model – Criteria & Weights

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- Scope

$$\left[ \left( \frac{HH_i}{Max(HH)} \right) * Scope_w \right]$$

- Function of households within project area.
- $Scope_w = 25\%$



## NEBP Scoring Model – Final Score

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- Projects then prioritized for funding;
  - By Group Assignment,
  - By Total Score,
  - Subject to funding availability.