Assisting Residents with Digital Connectivity
Why and how we are doing this.
Growing Demand for Digital Equity

Online learning trends:

- **45,000** - The estimate of K-12 students who took an online course.
- **50%** - The percent of high schools classes delivered online by 2019.
Digital Equity Challenges

Nearly $4 billion/year spent on improving access in schools, yet:

5 million student households lack high-speed access.

75% of school systems don’t have any strategies for providing home connectivity.
What we are doing.

- Low cost site Wi-Fi
- Community Centers with Google chrome books
Community Wi-Fi Systems

Low cost and low maintenance, site wide WI-FI:
Community Wi-Fi Systems

Access point pricing.

- Open Mesh – $95 - $200 per access point + free management
- Aruba – $450 - $800 per access point + management
- Cisco - $800 - $1000 per access point + management
Community Wi-Fi Systems

Reporting and trending

Usage

<table>
<thead>
<tr>
<th>Clients</th>
<th>Download</th>
<th>Upload</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12 pm</td>
<td>5.6 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>12-3 pm</td>
<td>3.4 GB</td>
<td>1.8 GB</td>
</tr>
<tr>
<td>3-6 pm</td>
<td>2.3 GB</td>
<td>1.1 GB</td>
</tr>
<tr>
<td>6-9 pm</td>
<td>1.2 GB</td>
<td>0.6 GB</td>
</tr>
<tr>
<td>9-12 pm</td>
<td>0.3 GB</td>
<td>0.1 GB</td>
</tr>
</tbody>
</table>

Traffic

- Total: 56.7 GB (↓51.5GB, ↑5.2GB) / Clients: 53

Top Applications

- YouTube: Streaming Video, 12.8 GB
- Misc Web: HTTP, 12.3 GB
- BitTorrent: File Sharing, 11.9 GB
- Misc Video: HTTP Video, 10.7 GB
- UDP: —, 3.5 GB
- TCP: —, 1.5 GB
- Misc SSL Web: SSL, 1.1 GB

Top Clients

- MAC Address: 21:10:34
  - OS: Roku
  - Download: 21.1 GB
  - Upload: 307 MB
  - Total: 21.4 GB
- MAC Address: 40:23:70
  - OS: File Sharing
  - Download: 9.4 GB
  - Upload: 3.6 GB
  - Total: 13.1 GB
- MAC Address: 12:12:34
  - OS: HTTP Video
  - Download: 4 GB
  - Upload: 191.7 MB
  - Total: 4.2 GB
- MAC Address: 56:78:90
  - OS: SSL
  - Download: 2.8 GB
  - Upload: 63 MB
  - Total: 2.9 GB
Community Centers & Computer labs

- Low cost
- Low maintenance
- High security
- Cloud management

Google Chrome Operating System

1. Google Chromebook
2. Google Chromebox
3. Old out-of-date computers revived!
Google Chrome OS Advantages

**Low cost**

- Avg. Chromebook  $150 - $300
- Avg. Chromebox  $150 - $200
- Google Chrome on old computers (HP, Dell, etc) Free or $15 per year with the management.