Metro Mobility
Radio Communications

Transportation Committee
August 27, 2012

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Metropolitan Emergency Services Board (MESB) Concerns

- Metro Mobility's airtime usage
  - Busy signals on some sub-systems (Scott, Carver, Anoka)
  - Overall system capacity concerns
  - Ongoing concern since 2006
- Operating costs
  - Ongoing maintenance costs of subsystems
  - User fee discussion

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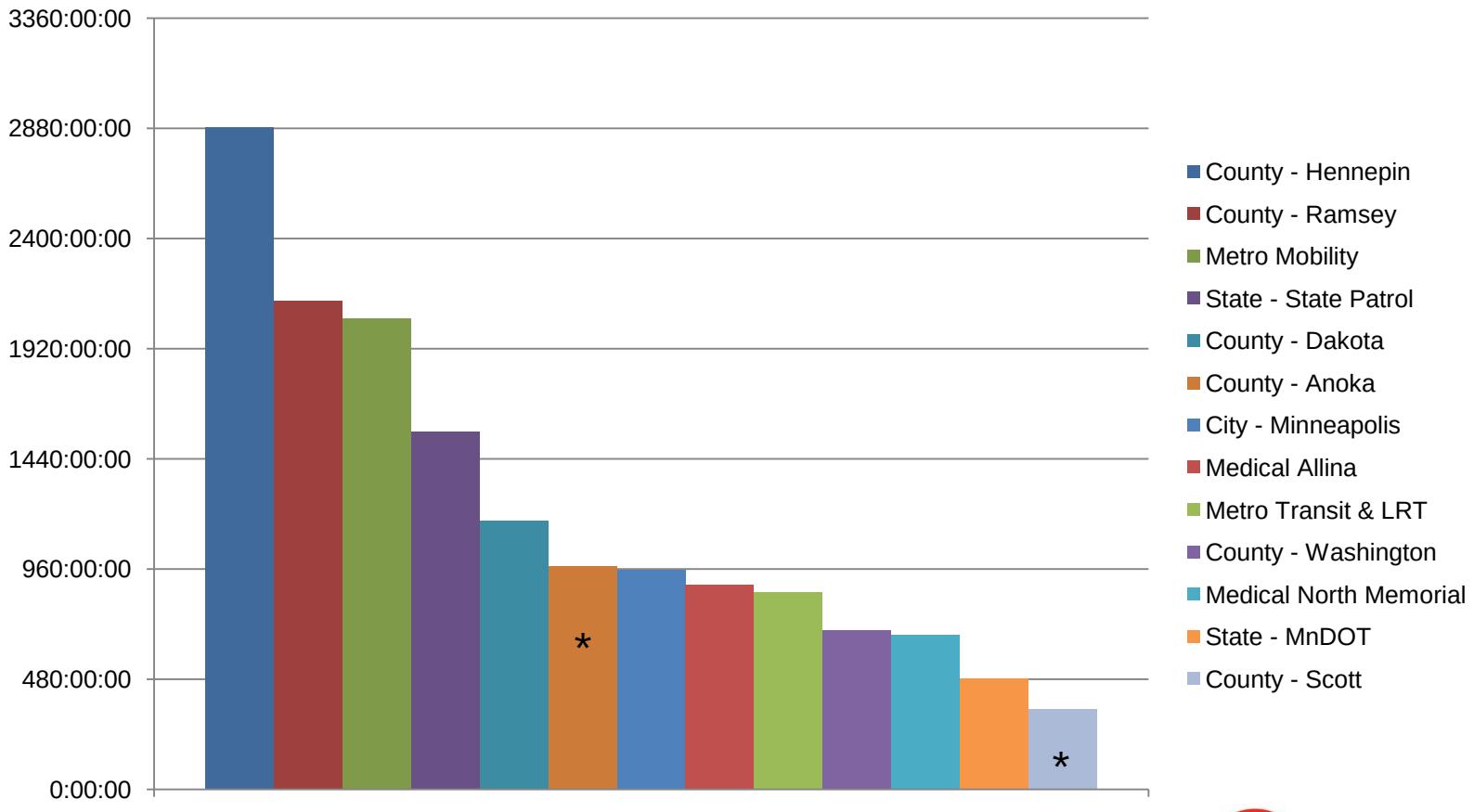
Metro Area System Top 15 Users
May 2010 Air Time by Agency



* Includes Air-time for Metro Mobility Service delivered by the county.

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Metro Mobility Action

- Short-term solutions complete:
  - Radio reprogramming
  - Implementing driver training program
  - Purchased onboard GPS navigation units to assist drivers
- Ongoing:
  - Driver training and refreshers
- Moderate and possible long-term solutions:
  - Options developed by SEH

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Moderate and Long-Term Solutions

Table 20 – **Migration Options and Estimated Costs (all figures X $1,000)**

Option	Description	Est. Capital Cost	Est. Annual Operating Cost	5 Yr Total (Capital plus 5 Yrs Ops)	Reduce ARMER Usage	Entp Fit	Tech Road Map	Ease of Deploy	Risk	Interop
1	Create Zones - Business Process Reengineering	$ 380	$ 5	$ 405	Mod	Low	Low	High	Mod	High
2	Commercial leased voice services (Ancom / Verizon/ AT@T)	$ 185	$ 165	$ 1,010	High	Low	Low	High	Low	Low
3	Add ARMER Capacity	$ 205	$50	$ 455	Low	Low	Low	Low	High	High
4	Team for ARMER Overlay	$9,380	$460	$ 11,680	High	Mod	Mod	Low	High	High
5 A	Private - Data Only Plan	$ 190	$225	$ 1,315	Mod	Mod	Mod	Mod	Low	High
5 B	Private – Full Voice and Data w MDC/AVL/CAD	$2,645	$525	$5,270	High	Mod	High	Mod	Mod	Low
5 C	Private – AVL/MDC/CAD – Retain ARMER Voice	$2,645	$300	$4,145	High	High	High	Mod	Mod	High
5 D	Upgrade Metro Council AVL/MDC– Retain ARMER Voice	$3,065	$150	$3,815	High	High	High	Low	High	High

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MESB Feedback

- Council given until December 2012 to select and begin implementation of a plan to reduce 800 MHz voice radio usage.
- Council to provide MESB with monthly update regarding progress toward selected option.
- Council given usage goals by the Technical Operations Committee (TOC).

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Staff Recommendation

- **Short-term**: Implement scaled-down version of option 1 – *Business Process Reengineering*. Scaled-down plan with minimal capital investment.
- **Moderate-term**: Implement option 5C – *Automatic Vehicle Locators (AVL) and Mobile Data Computer (MDC) Technology* using private carrier (such as Sprint, Ancom, Verizon) for data communication and retain 800 MHz system for voice communication. Staff recommends expanding scope to *include Interactive Voice Response (IVR) technology.*
- **Possible long-term**: Transition data communication from private carrier to option 5D - *expanded/improved Metro Transit data communication system or option 4 - ARMER overlay*.

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Cost of AVL/MDC and Interactive Voice Response (IVR) Solution

Costs*	Capital	Annual
Trapeze License Fees – AVL/MDC	895,125	179,025
Vehicle Hardware – AVL/MDC	1,503,750	
Implementation Services – AVL/MDC	748,006	
Installation/Project Manager/Other	347,205	
Hardware Maintenance		25,975
Data Communication Carrier Costs		90,000
Subtotal AVL/MDC Solution	**3,353,214**	**295,000**
Trapeze License Fees - IVR	309,014	75,000
Implementation Services – AVL/MDC	72,600	
Project Manager/Other	58,300	
Third Party Voice Genie Licenses	66,000	
Subtotal IVR Solution	**505,914**	**75,000**
TOTAL ESTIMATED PROJECT COSTS	**4,000,000**	**370,000**

*Assumes 500 Units that equip all Metro Mobility and Transit Link vehicles

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Benefits of AVL/MDC/IRV Solution

- Reduce 800 MHz voice communication air-time by approximately 70%.
- Improved ability to re-optimize routing as cancels and rescheduled pick-ups occur throughout the day.
  a) More efficient routing means fewer revenue hours and lowered cost per passenger trip
  b) Improve on-time performance
  c) Accommodate more same-day requests

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Benefits of AVL/MDC/IRV Solution

- GPS video and audible navigation tool on each bus
- Improve accuracy of reported data (arrival times and departure times)
- Ability to communicate real-time information regarding pick-up times via automated phone or text messages
- Ability to send automated trip reminders the day prior to service

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Next Steps

- **Today** – Address questions and concerns of the Transportation Committee
- **September 10 and September 26** – Seek Transportation Committee and Council approval to amend the capital budget from a placeholder amount of $1.5 M to $4.0 M
- **September 10 and September 26** – Seek Transportation Committee and Council approval to enter into a sole source agreement with Trapeze (contingent upon capital budget approval)
- **Late October** – Council approval of Project Manager contract
- **Late November** - Council approval of equipment purchase
- **January 2013** – Begin AVL/MDC/IVR pilot on 20 Metro Mobility buses

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Questions

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