

## RED Committee Report 2004, PowerPoint slide explanatory text

### Slide 1

Review Evaluation and Design Committee tasking from EMS Council to Operations Committee, July 2003.

### Slide 2

Historical modifications to the Medic One system response and transport units.

### Slide 3

Graph displays Thurston County EMS system response volume history 1989-2003.

### Slide 4

This graph demonstrates the historical response time in relation to call volume and addition of ALS units.

### Slide 5

Task to accomplish by RED Committee update 2004

### Slide 6

Process developed by Operations Committee to develop RED Committee update report.

### Slide 7

EMS Council adopted WA state Verified Trauma Agency response requirements as Medic One/EMS System response goal for all ALS responses.

### Slide 8

Question posed to Operations Committee to develop report on the status of the ALS response system.

### Slide 9

Operations Committee requested clarification from the EMS Council regarding limitations to study consideration.

### Slide 10

Direction from EMS Council for factors to be considered in the RED Committee update of the system study.

### Slide 11

Commentary by the Operations Committee regarding the vital nature and dependency of the ALS response system of BLS first response.

### Slide 12

Commentary by the Operations Committee regarding the vital nature and dependency of the ALS response system of Citizen awareness and action regarding EMS system effectiveness.

Slide 13

Medic One ALS standards and goals for the System to be reviewed against.

Slide 14

Summary of data that the Operations Committee reviewed with regard to the 2003 RED Committee/ALS system update.

Slide 15

Definition of Urban Response area, Washington Administrative Code.

Slide 16

Data table of square miles and population/density for Urban response area with 2003 population and 2005 population projection with associated Medic One classification. Source Thurston Regional Planning Council, Profile 2003.

Slide 17

Definition of Suburban Response area, Washington Administrative Code.

Slide 18

Data table of square miles and population/density for suburban response area with 2003 population and 2005 population projection with associated Medic One classification. Source Thurston Regional Planning Council, Profile 2003.

Slide 19

Definition of Rural Response area, Washington Administrative Code.

Slide 20

Data table of square miles and population/density for rural response area with 2003 population and 2005 population projection with associated Medic One classification. Source Thurston Regional Planning Council, Profile 2003.

Slide 21

Data table of square miles and population/density for rural response area with 2003 population and 2005 population projection with associated Medic One classification. Source Thurston Regional Planning Council, Profile 2003.

Slide 22

Data table of square miles and population/density for rural response area with 2003 population and 2005 population projection with associated Medic One classification. Source Thurston Regional Planning Council, Profile 2003.

Slide 23

Definition of Wilderness Response area, Washington Administrative Code. Wilderness response time classification requires a response time “as soon as possible.”

Slide 24

The map demonstrates the current response classification scheme using 2003 population data.

Slide 25

The map demonstrates the modified response classification scheme using 2005 population data.

Slide 26

This series of slides represents a review of ALS response data against Medic One ALS response goal achievement. These slides attempt to answer the question, "Are we meeting system goals?"

Slide 27

Table demonstrating ALS response volume and time in minutes by Urban classification as a function of goal attainment.

Slide 28

Table demonstrating ALS response volume and time in minutes by Suburban classification as a function of goal attainment.

Slide 29

Table demonstrating ALS response volume and time in minutes by Rural classification as a function of goal attainment.

Slide 30

Table demonstrating ALS response volume and time in minutes by Rural classification as a function of goal attainment.

Slide 31

Graph of Thurston County Medic One ALS System demonstrating ALS response volume and time in minutes by jurisdiction for all classifications as a function of goal attainment, 2002 data.

Slide 32

Graph of Thurston County Medic One ALS System demonstrating ALS response volume and time in minutes by jurisdiction for all classifications as a function of goal attainment, 2003 data.

Slide 33

Recommendations of Operations Committee for modification of ALS Response goal classifications as related to each jurisdiction, RED Committee report update.

#### Slide 34

This series of slides represents a review of ALS transport unit availability/non availability in the Thurston County Medic One system. This series of slides attempts to answer the question, "Is there a problem with ALS unit availability/system reliability?"

#### Slide 35

Graph displays Thurston County EMS system ALS transport volume history 1989-2003.

#### Slide 36

This table shows the frequency, time and percent that all medic units were committed on calls and the system did not have the capacity to accept another call should it have occurred.

#### Slide 37

Table analyzes incidents of ALS transport unit non availability in the Thurston County Medic One system by frequency and total minutes for a study period in 2002 of 10% and projects the expectation of that frequency/time for the entire year.

The table demonstrates the frequency, time and percent that all medic units were committed on calls and the system did not have the capacity to accept another call should it have occurred in the year 2002.

#### Slide 38

Table analyzes incidents of ALS transport unit non availability in the urban portion of the Thurston County Medic One system by frequency and total minutes for a study period in 2002 consisting of 10% of the call volume and projects the expectation of that frequency/time for the entire year. The study discounted the response by Medic 2 (Yelm) transport unit.

The table demonstrates the frequency, time and percent that all urban area medic units were committed on calls and the system did not have the capacity to accept another call should it have occurred in the year 2002.

#### Slide 39

Analysis of ALS transport unit availability for Thurston County Medic One ALS transport, 2002 data.

#### Slide 40

The following series of slides analyzes the ALS response volume against time of day and day of week. This series of slides attempts to answer the question, "Could unit locations be changed to shorten a response time issue?"

#### Slide 41

This slide graphs the total system ALS call volume in Thurston County by time of day.

#### Slide 42

This slide graphs the total system ALS call volume in Thurston County by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data.

#### Slide 43

This slide graphs the total system ALS call volume in Thurston County by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. Trend line was added to display 3 hour averaging.

#### Slide 44

This slide graphs the total system ALS call volume in Thurston County by day of week. The slide graphs peak volume days of the week for the period 1/1/2003-6/30/2003 data.

#### Slide 45

This slide graphs Medic unit 3 (Lacey) ALS call volume in Thurston County by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. A three hour averaging trend line was added to the graph. Volumes at each time of the day are similar to the system's ALS call volume.

#### Slide 46

This slide graphs Medic unit 4 (Olympia) ALS call volume in Thurston County by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. A three hour averaging trend line was added to the graph. Volumes at each time of the day are similar to the system's ALS call volume.

#### Slide 47

This slide graphs all Medic unit ALS call volume to Fire Station 3-1 area by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. A three hour averaging trend line was added to the graph. Volumes at each time of the day are similar to the system's ALS call volume with specific peaks at 8AM, 12 PM and 8PM.

#### Slide 48

This slide graphs all Medic unit 3 (Lacey) ALS call volume to Fire Station 3-1, 3-2, 3-3, 3-6, 6-5 area by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. A three hour averaging trend line was added to the graph. Volumes at each time of the day are similar to the system's ALS call volume with specific peaks at 9AM, 12 PM, 6PM and 9PM.

#### Slide 49

This slide graphs all Medic unit 3 (Lacey) ALS call volume to Fire Station 3-4, 3-5, 3-7, 8-2, 8-3 area by time of day. The slide graphs peak volume hours of a day for the period 1/1/2003-6/30/2003 data. A three hour averaging trend line was added to the graph. Volumes at each time of the day are different than the system's ALS call volume with specific peaks at 6AM, 2 PM, 6PM and 9PM.

#### Slide 50

This slide plots all ALS responses January 1 – September 30, 2003.

#### Slide 51

This slide plots all ALS responses between hours 8 AM to 5 PM Monday through Friday, January 1 – September 30, 2003.

#### Slide 52

This slide plots all ALS responses for night and weekend, (not between hours 8 AM to 5 PM Monday through Friday), January 1 – September 30, 2003.

#### Slide 53

Analysis of ALS response load on the Thurston County Medic One ALS system component.

#### Slide 54

Fractile response times are a views of response time by percent of response time attainment. Fractile response times are more descriptive of system performance, regarding response time, than simple overall average response time. This series of slides attempts to answer the question, “Have the addition of ALS units improved system response times?”

#### Slide 55

This slide graphs fractile response time history 1988 to 2002, Thurston County Medic One ALS units, 6, 8, 12, 15, 20 and 30 minute fractiles.

#### Slide 56

This slide graphs fractile response time history 1988 to 2003, Thurston County Medic One ALS units, 6, 8, 12, 15, 20 and 30 minute fractiles.

#### Slide 57

This is a national model view of a system wide fractile response time, 2002 ALS response time, Thurston County Medic One

#### Slide 58

This is a national model view of a system wide fractile response time, 2002 ALS response time, Thurston County Medic One

#### Slide 59

Analysis of Medic One ALS response time fractile review.

#### Slide 60

This series of slides reviews population forecast data by response jurisdiction and attempts to answer the question, “Where do we expect to see population impacts on response time?”

#### Slide 61

The slide graphs population projections for the Thurston County areas classified as Urban.

Slide 62

The slide graphs population projections for the Thurston County areas classified as Suburban.

Slide 63

The slide graphs population projections for the Thurston County areas classified as Rural.

Slide 64

This slide graphs the changes in population by jurisdiction, Thurston County 2005-2025.

Slide 65 deleted

Slide 66

Analysis of population change, Thurston County, 2005-2025.

Slide 67

This series of slides reviews historical volume of EMS incidents and projects that historical information into the future as an estimate. These slides attempt to answer the question, "Based on call history, where can we expect projected call volume growth to impact response time?"

Slide 68

This slide projects call volume growth for Urban classified jurisdictions in Thurston County to 2025, using actual historical data 1995-2002.

Slide 69

This slide projects call volume growth for Suburban classified jurisdictions in Thurston County to 2025, using actual historical data 1995-2002.

Slide 70

This slide projects call volume growth for Rural classified jurisdictions in Thurston County to 2025, using actual historical data 1995-2002.

Slide 71

This slide reviewed the Lacey Urban Growth Boundary in relation to its current classification as a Suburban response area.

Slide 72

This slide reviewed the Lacey Urban Growth Boundary in relation to classification as an Urban response area and 2005 classification change.

Slide 73

This series of slides reviews the ALS response volume of the ALS system by unit. It attempts to answer the question, "How does combining the response volume by unit change the number of patient contacts per medic?"

Slide 74

This slide geographically depicts ALS response volume, per square mile for 2002 in Thurston County.

Slide 75

This slide geographically depicts ALS response volume, per square mile for 2001 in Thurston County.

Slide 76

This slide geographically depicts ALS response volume, per square mile for 2003 in Thurston County.

Slide 77

This table shows the ALS call volume by medic unit. SPRINT call volume is not shown as it is a sub-set of the M/5 call volume.

Slide 78

The table on this slide shows the ALS call volume by medic unit and average calls per medic with units combined as described.

Slide 79

This slide shows the average call volume per medic for the Rochester/Grand Mound SPRINT unit.

Slide 80

This slide shows the average call volume per medic for the Yelm paramedic unit prior to its merger with Lacey paramedic unit.

Slide 81

This table shows the effect of upgrading the current SPRINT unit to a full Medic Unit and combining the units as depicted, on the call volume per medic.

Slide 82

Analysis and comments on staffing and call volume per medic.

Slide 83 deleted

Slide 84 deleted

Slide 85 deleted

Slide 86

Recommendation by Operations Committee/RED Committee update

## Slide 87

This slide compares two methods of calculating the number of paramedic units needed for an area. The models were used in the 1993 RED report and 1996 update to the RED report.

The Pittsburgh model calculates a single number considering desired response time for an area, using unit travel speed in urban, suburban and rural settings and a proportionality constant developed by University of Pittsburgh.

The North Region model was developed by North Region EMS in Washington State for state required trauma unit minimum and maximum number of ALS units. The North Region model considers: population, service area, percent of high risk youth population, percent of high risk senior population, vehicle accident fatality rate, vehicle accident rate and hazardous employment rate. The calculation determines the minimum number of units the maximum is twice the minimum.