

## Mowing Best Practices

An in-house study by Organizational Results in cooperation with the Maintenance Division

### MoDOT Summary Statement

*Selected participants were asked to relay their best practices in the area of mowing. Responses from the group were very similar, with a majority of the practices relating to analysis of the maintained area, the use of larger mowers and the use of herbicides and plant growth regulators (PGRs).*

### Background

On December 9, 2008, the Maintenance Division sponsored a focus group to compile a list of specific best practices currently being used within the state. The focus group had the following participants:

- Jennifer Hinson, Area Engineer – District 3
- Michael Dunseith, District Maintenance Engineer – District 7
- Dan Sherbo, Maintenance Superintendent – District 9
- Keith Gentry, Maintenance Superintendent – District 10
- Danny Woods, Roadside Maintenance Specialist – Central Office Maintenance

The complete list of district comments is on page two of this document.

### MoDOT Findings

Overall, the identified best practices can be placed into three general categories: analysis of the maintained area, the use of larger mowers and the use of herbicides and plant growth regulators (PGR) – a herbicide that suppresses the top-growth of a plant.

Analysis of the maintained area is defined differently among the districts. Districts 3, 7 and 10 analyze the area to create a circular mowing route. This creates efficiencies in mowing time, as well as minimal “deadheading.” Mowing in these districts occurs on major routes prior to the Memorial Day, Independence Day and Labor Day, with a final mowing in October. Conversely, District 9 examines the area from a procedural perspective by mowing only when needed according to the height specifications addressed in the Engineering Policy Guide (<http://epg.modot.org>), sections 822.2 through 822.6.

All of the districts involved in the focus group identified the use of larger mowers as a best practice in response to reduced mower fleets statewide. Larger mowers significantly lower labor and fuel costs by reducing mowing hours.

Even though it has seen resistance in certain areas, PGRs have created efficiencies in the area of vegetation management. Used in combination with other herbicides, PGRs have reduced mowing in the treated areas. Districts 3, 9, and 10 identified the use of PGRs and herbicides as a best practice.



## Focus Group Comments

### **District 3**

- A reduction in the use of six-foot mowers and the increase of 15-foot batwing mowers. This initiative decreased the time needed to mow in the district and nearly cut the diesel consumption in half.
- Prior to mowing, an analysis of the area is performed with the purpose of mapping out a circular route that will increase efficiency by significantly reducing or eliminating “deadheading.”
- The use of plant growth regulators (PGRs) reduces the amount of times that the treated areas need to be mowed. In areas where PGRs are used, the district mows only one time, if at all possible.
- Mowing on major routes is completed in four cycles: prior to Memorial Day, prior to Independence Day, prior to Labor day, and a final mowing out in October.

### **District 7**

- Recently revamped their mowing strategy due to a reduction in mowing fleet from 104 units to 54 units. The result has been an increase in hours of use per mower. However, a decrease in the total hours of mower usage has been shown over the past three years. This decrease has resulted in a decrease in fuel consumption for this purpose.
- Hard deadlines were established for sight distance mowing and final mowing. For sight distance mowing on major roads, a deadline of three days was created, and for minor roads, a sight- distance mowing deadline of nine days was created. Additionally, the deadline for final mowing was set at five weeks.
- Staggered shifts were created using ten-hour shifts, five days per week.
- While there was a decrease in overall mower fleet, there was an increase in the number of 15-foot rotary mowers. The 15-foot rotary mowers reduced the inefficiencies of the smaller mowers.
- Similar to District 3, prior to mowing, an analysis of the area is performed with the purpose of mapping out a circular route that will increase efficiency by eliminating or significantly reducing “deadheading.”

### ***District 7 (cont'd.)***

- The use of a follow truck that is not only utilized as a tool for advanced warning, but is used to transfer an employee that can do weed trimming and finalize maintenance to the area.

### **District 9**

- Focus on an integrated approach using mechanical, chemical and biological controls.
- Mow according to the guidelines established by the Engineering Policy Guide. This guide institutes mowing rules based on the height of the vegetation in the area. Using this guide, mowing in the district is done between one and three times per year.
- In order to reduce mowing responsibilities and keep a consistent look, an annual plan was created, which included mowing up to 30-feet off of the road on even numbered routes in even numbered years and simply shoulder cuts on other roads, then vice versa on odd numbered years.

### **District 10**

- Due to a reduction in mower fleet, the district has increased the use of both 15-foot batwing mowers and their four 20-foot mowers.
- The use of plant growth regulators (PGRs) reduces the amount of times that the treated areas need to be mowed. In areas where herbicides are used, the district mows only one time, if at all possible.
- Prior to mowing, an analysis of the area is performed with the purpose of mapping out a circular route that will increase efficiency by significantly reducing or eliminating “deadheading.”
- Mowing on major routes are completed in four cycles: prior to Memorial Day, prior to Independence Day, prior to Labor day, and a final mowing in October.