



Product Type: ASC/3

Reference: AN2118

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ASC/3 Ring Split Extension

Purpose

This document describes the operation of Ring Split Extension in the ASC/3 controller.

Introduction

If the ASC/3 uses vehicle detection to control the coordinated phases and there is a demand at the yield point in the cycle, it can extend the coordinated phase. This is “Actuated Coordinated Phase” mode and uses the “Ring Split Extension” time as the time available to extend the coordinated phase before it is terminated.

This operation is useful on arterials where the coordinated phase green randomly changes from normal to heavy usage. With Ring Split Extension and Actuated Coordinated enabled, the time used by the coordinated phase depends on the traffic:

- **Heavy Traffic** - The phase extends by all the split time available.
- **Light Traffic** - The phase gaps out and ends normally at the coordinated phase at the cycle yield point.
- **“Gap-Out” Lapse in Traffic “Platooning”** - The phase extends with only part of the split time available.

Applications

With Split Ring Extension:

- You enter the amount of split time for the coordinated phase, as usual.
- The ASC/3 uses the Ring Split Extension value, for each coordinated phase, to reduce the time for that Phase Split during periods of light demand on the coordinated phase.
- During light demand, the unused split extension time could be used by the phases that follow the coordinated phases.

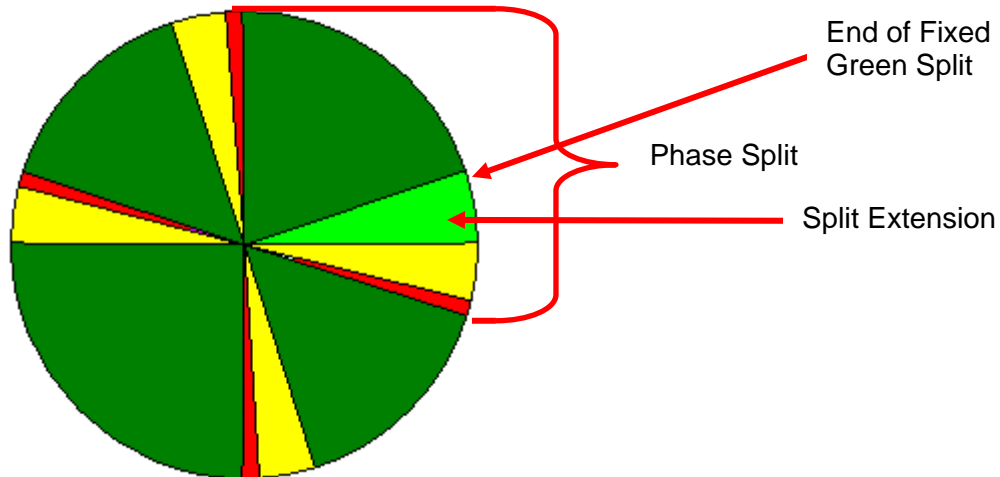
For an example, refer to the page that follows.



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Example: The diagram below shows an 8-phase quad left turn intersection. The Cycle Length is 100 seconds. The Phase Split for both coordinated phases is 30 seconds. The Ring Split Extension time for both rings is 5 seconds. The Yellow Clearance is 4 seconds and All-Red Clearance is 1 second for both coordinated phases.



Light Traffic - If the coordinated phases are Gaped Out at the end of the fixed green, the timing is as shown below:

Timing for Light Traffic

Interval	Description	Seconds
Phase Split	Base	30
Yellow Clearance	Minus	4
All-Red Clearance	Minus	1
Green Split available	Total	25
Ring Split Extension	Minus	5
Green Time actually used	Total	20

Heavy Traffic - The Ring Split Extension is not subtracted, and all the time is available for the coordinated phase green, as shown below:

Timing for Heavy Traffic

Interval	Description	Seconds
Phase Split	Base	30
Yellow Clearance	Minus	4
All-Red Clearance	Minus	1
Green Split available	Total	25