

# **The Runcutter Course™**

## **Service Design, Scheduling, Runcutting**

**Developed and Presented by Arthur N. Gaudet & Associates Inc**  
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**Course Duration:** 2 Days

**Targeted Class Size:** 5-25 Attendees

**Prerequisite Knowledge:** Some Familiarity with Transit Operations, Planning, and/or Service Design.

**Course Concept:**

### **The Problem:**

To a great extent, transit service design and scheduling, and, more significantly, operator work scheduling (the runcut) have become a lost art. The interrelationship of planning and scheduling is not always maintained. This has led to such situations as:

- Designing service which can not be operated safely or reliably due to high scheduled speeds; imbalance of fulltime/parttime work (in 2 medium-size southeastern cities);
- Designing service that maximizes operator utilization, but results in uneven, irregular provision of transit service (in another medium-size southeastern city);
- Reliance on computerized scheduling software, without analysis of alternatives, leading to inefficient and expensive assignment of rush-hour buses and drivers (large southern city).
- Overserving and underserving transit routes, not matching resources with demand, due to limited data collection and analysis (medium-size northern city).

Further issues have arisen as transit systems face increased competition for employees, resulting in hiring, training, and employee retention problems – often exacerbated by the nature of the operators’ work schedules. In many cases, “We’ve always done it that way” has resulted in high turnover among new hires, increasing both direct (hiring, training) and indirect expense (accidents, service reliability).

### **The Solution:**

This course is intended to lead attendees through the service development, analysis, and modification process, leading to development of the runcut, or operators' work assignments. In the scheduling process, no function exists independently. A course in runcutting alone, without considering service design, is a course in "making the best of a bad situation." The course will review alternative methods for providing transit services, service design and scheduling considerations, vehicle blocking and utilization, and operator scheduling and utilization. Inherent in the course concept is the fact that all these functions are inter-related.

### **The Presenter:**

Arthur N. Gaudet has been involved with transit management and planning for over thirty-nine years. This experience led to the founding of Arthur N. Gaudet & Associates in 1987, providing transit management services, operations reviews and departmental management audits, route design, scheduling and run cutting, alternatives analysis, and training/personnel development.

Since 1990, the largest component of business has consisted of service planning, scheduling and run cutting. Properties have ranged from a 250+ vehicle fixed route operation utilizing four garages, to operations with less than 20 vehicles, throughout the country.

In addition to service design and scheduling, we follow through and prepare numerous runcuts each year, for properties throughout the country. We also serve as "outside eyes," evaluating transit service and efficiency, with a focus on both operability and cost-effectiveness. We also prefer to teach local staff while we work - helping managers (from Field Supervisors through General Managers) become more valuable to their operations.

Our ability to design effective service and generate savings comes from intimate familiarity with street operations. Mr. Gaudet has worked in virtually all phases of transit, from fueling/hostling, driving, training, supervising, to serving as General Manager. With this experience, we set the highest priority on maintaining quality passenger service while resolving service disruptions, always keeping the passenger in mind.

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**Additional Reference Materials – Recommended for Review**

- TCRP Rept 30 - Transit Scheduling, Basic & Advanced Manuals**
- TCRP Rept 68 - Part-Time Transit Operators, Trends & Impacts**
- TCRP Rept 81- Toolbox for Transit Operator Fatigue**
- TCRP Synth 34 - Data Analysis for Bus Planning & Monitoring**

# **The Runcutter Course**

## **Service Design, Scheduling, Runcutting**

### **Introduction:**

The Service Design, Scheduling, and Runcutting process is a complex balancing act, combining both science and art to provide cost-effective transit service. Schedulers and Planners deal with hard and fast facts such as finances, speed/time/distance equations, and available resources (e.g., buses). They also deal with fuzzier issues such as human behavior and perception – on the part of passengers, employees, and even policy makers. Schedulers use a combination of art/skill/experience to deploy their assets where they will provide the greatest amount of service at the least cost.

### **Section 1 – Priorities, and a Common Language**

#### **Priorities - The Master Scheduler – or the Scheduler’s Masters:**

In thinking about the Scheduler’s work, he/she serves many masters. Rank the priorities, as you see them, in terms of your job – your property – your own personal standards and perceptions. Add elements in the blank spaces.

- \_\_\_ Management - Maximizing Service while Minimizing Cost.
- \_\_\_ Passengers- Providing service when & where needed, with good travel times.
- \_\_\_ Drivers as Individuals – Work Life Quality – Straights/Splits/Off days.
- \_\_\_ Drivers as a Group – The Labor Agreement.
- \_\_\_ Maintenance – Vehicle Commitment; Vehicle purchases (high floor/low floor).
- \_\_\_ Conflicting Job Duties.
- \_\_\_ \_\_\_\_\_
- \_\_\_ \_\_\_\_\_
- \_\_\_ \_\_\_\_\_

## **A Common Language:**

Transit service is transit service – or, as Stein said, “a rose is a rose is a rose.” That said, there is no common definition or usage for many words – but it is absolutely essential for understanding that everyone speak the same language. A “Block” on one property may be a “Train” on another, or a “Run” on a third property. A “Run” in baseball means only one thing, but in transit, the word can refer to what a bus does during a day, what a driver does during a day, or what a driver does during a week. Undoubtedly, there is a property somewhere where the word “run” means something else entirely.

So, let’s take a few minutes and review the glossary of transit terms in the back of this workbook. Terms that are key to scheduling are shown in larger, italicized type. In the glossary, we’ve tried to use the most common, industry standard terminology. Your property may use different terms. In most cases, it really doesn’t matter what word you use, as long as everyone understands the definition. A Strategic Spare on many properties is a Standby Bus on others, and a Loop Extra somewhere else.

Even though you may use different wording on your property, it is **absolutely essential that each word describe one, and only one element**. On some properties, the words “Extra Board” describe a group of drivers (one thing), and the work they perform (something completely different).

***Action – Review & Understand Glossary Terms.***

## **Section 2 – The Scheduling Cycle**

### **Everything is Inter-Related - the straight line really isn't very straight:**

The only time the scheduling cycle has a start and end is when a route or system is first developed. Planning leads to Route Design, leads to Bus Scheduling, leads to Driver Scheduling. Service is implemented. Then, the work begins – Monitoring, Adjusting; Monitoring, Adjusting; – you get the picture. Every decision made, every action taken by the scheduling department echoes and rebounds around the property.

- Service Development – Concepts & Influences
  - Service Requests from Public
  - Current Element of Long-Range Plans
  - New Development – new demand generators
  - Service Alternatives
    - Fixed Route
    - General Public Demand Response
    - Other
  - Budget (Including Complementary ADA Service)
  - Resources (Vehicles)
- Bus Scheduling – The Headway Sheet
  - Hard Facts - Speed, Time, and Distance
  - Vehicle Blocking & Efficiency
  - Cost
- Driver Scheduling – The Run Cut
- Service Monitoring and Adjusting

The following Exhibit displays one property's conceptual scheduling process.



Ongoing Planning Process for Quarterly Service Changes

