



CENTRO RODOFERROVIÁRIO PORTUGUÊS

# “Visão Zero 2030: A Estratégia de Segurança Rodoviária para a construção de um Sistema Seguro”

BRISA INFRAESTRUTURA SEGURA

Arnaldo Reis e Teresa Zúniga Santo, Brisa

Com o apoio



Com a Coordenação da ANSR



Arnaldo Reis  
Teresa Zúniga Santo

*Brisa Infraestrutura Segura*

Grupo **Brisa** 

# Agenda

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- Objetivos ESG alinhados com a Visão Zero
- Foco da promoção da Segurança
- Equipamentos e Tecnologia
- Revisão do Manual de Sinalização Temporária
- Instalação e Levantamento da Sinalização Temporária
- Próximos Passos – Reduzir a Exposição ao risco

# Objetivos ESG alinhados com a Visão Zero



ODS definidos na Agenda de 2030 para o Desenvolvimento Sustentável da ONU



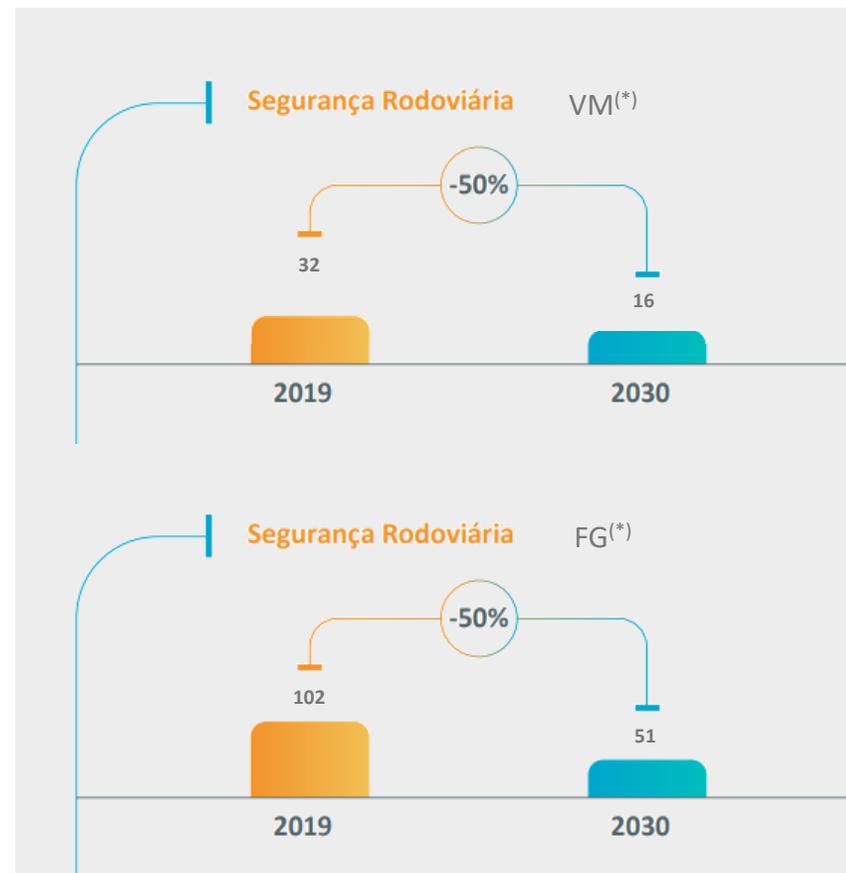
Reduzir em 50% o número de vítimas mortais e de feridos graves em acidentes rodoviários até 2030 (face a 2019), rumo às zero vítimas mortais e feridos graves em 2050

↓  
**ZERO**  
é o único número aceitável

2019

2030

2050



(\*) BCR

# Foco na promoção da Segurança

ELEVAR OS PADRÕES DE CONTROLO DE RISCOS DA SEGURANÇA

REDUZIR O NÍVEL DE RISCO ASSOCIADO AOS TRABALHOS DE MANUTENÇÃO E EXECUÇÃO DAS OBRAS RODOVIÁRIAS

GARANTIR A SEGURANÇA DE TODOS OS QUE CIRCULAM E TRABALHAM NA ESTRADA ENQUANTO DECORREM ATIVIDADE



# Equipamentos e Tecnologia

## Atenuadores de Choque Transportáveis

Caraterizam-se como proteção complementar de segurança, com o objetivo de:

- Aumentar o nível de visibilidade dos trabalhos
- Aumentar a proteção de utentes e trabalhadores
- Atenuar as consequências em caso de colisão



# Equipamentos e Tecnologia

## Sinalização Luminosa Transportável

Sinalização dos Trabalhos na Plataforma com recurso a equipamentos automáticos:

- Atrelados PMVs para utilização nos novos esquemas de sinalização temporária para trabalhos fixos e móveis





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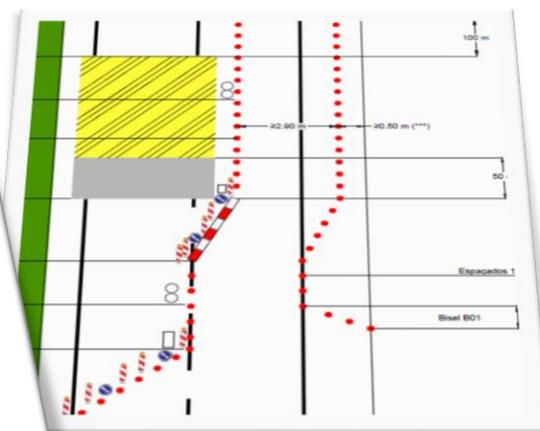
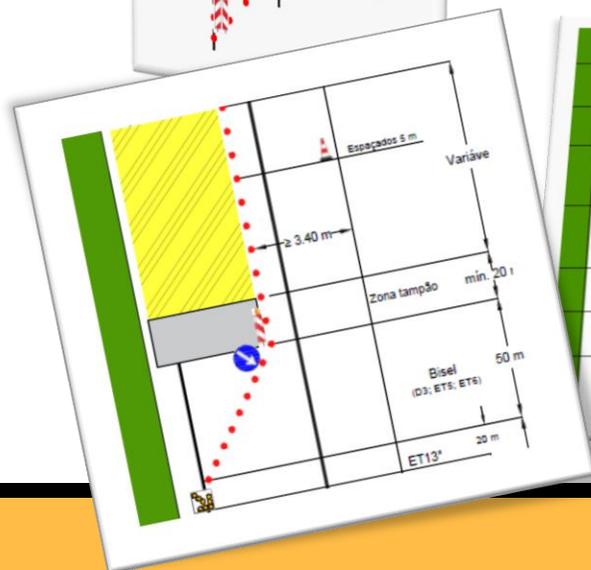
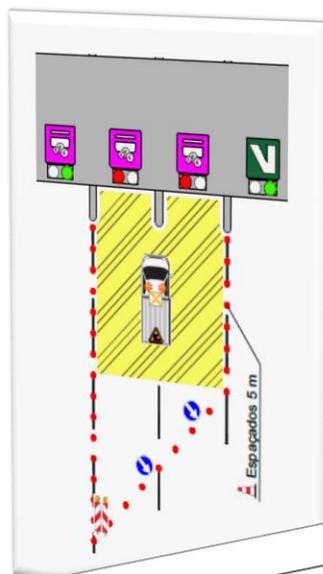
Grupo **Brisa** 

# Revisão do Manual de Sinalização Temporária

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- Reduzir a **exposição ao risco**, para os trabalhadores e utentes da infraestrutura rodoviária, melhorando a segurança de todos os intervenientes;
- **Melhorar as características da sinalização**, incrementando o uso da sinalização luminosa, reforçando visibilidade;
- Introdução de **novos equipamentos** como **atrelados de sinalização** e **amortecedores de choque transportáveis (TMA)**
- **Harmonizar Esquemas de Sinalização** e regras de atuação

# Revisão do Manual de Sinalização Temporária



Responder operacionalmente a singularidades da rede, com o desenvolvimento de novos esquemas de sinalização não previstas no MST



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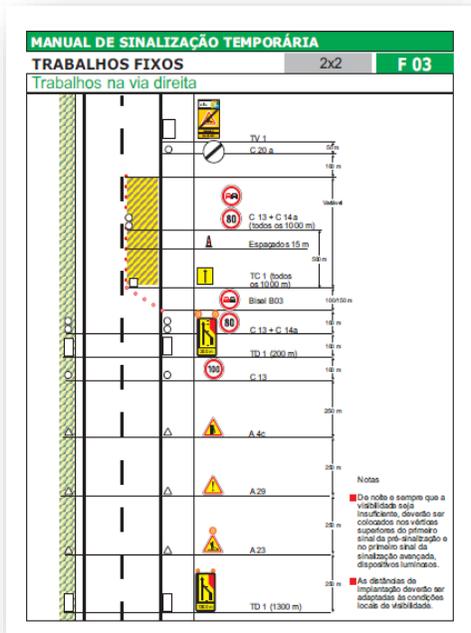
# Instalação e Levantamento da Sinalização Temporária



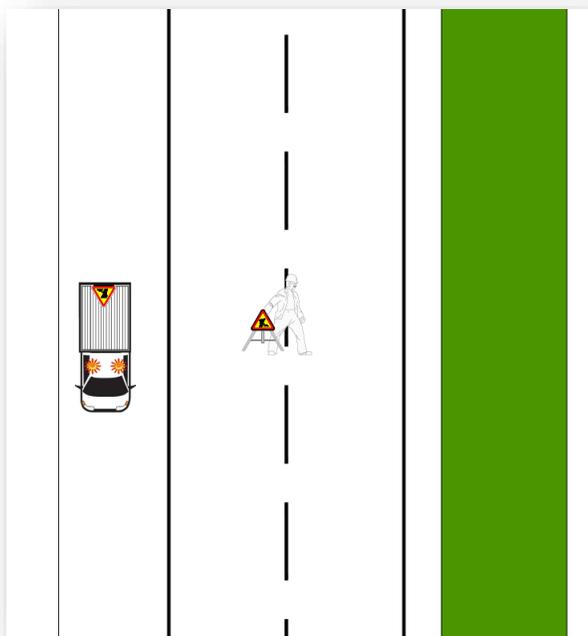
# Instalação e Levantamento da Sinalização Temporária

Diferentes metodologias de instalação, com diferentes magnitudes de risco

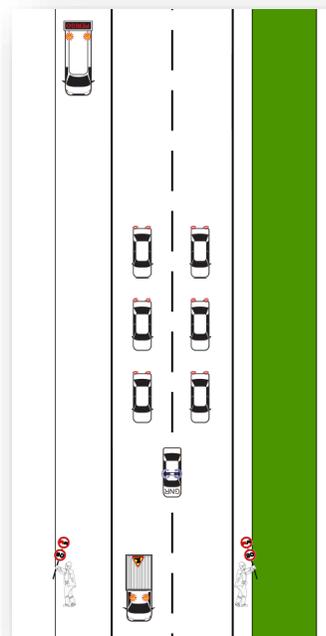
Esquemas do MST com sinalização apoiada no solo



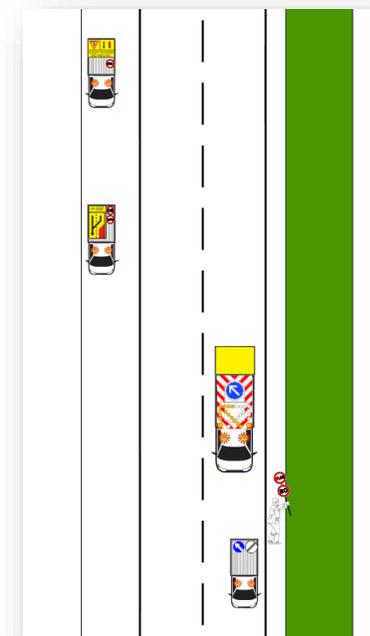
Atravessamentos da AE por trabalhadores apeados



Abrandamentos de trânsito



Trabalhos Móveis



# Instalação e Levantamento da Sinalização Temporária

Benchmark de boas práticas

 **Alemanha**



 **Austria**



 **França**

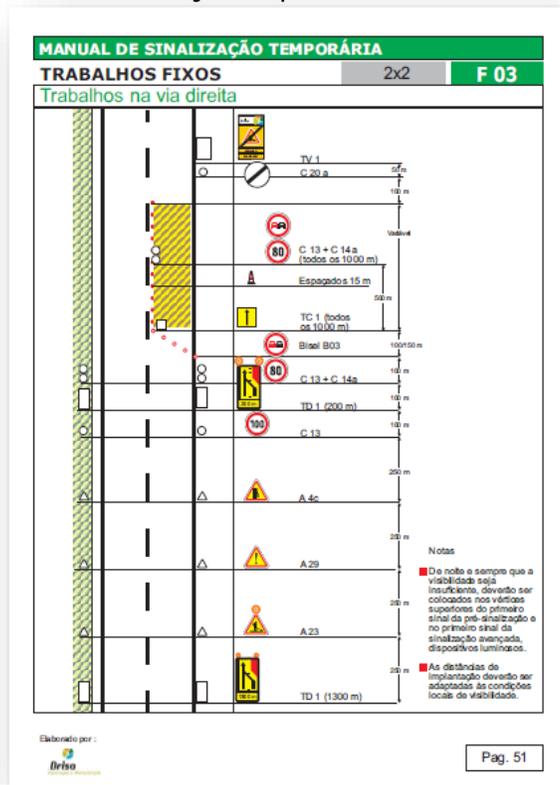


 **Bélgica**

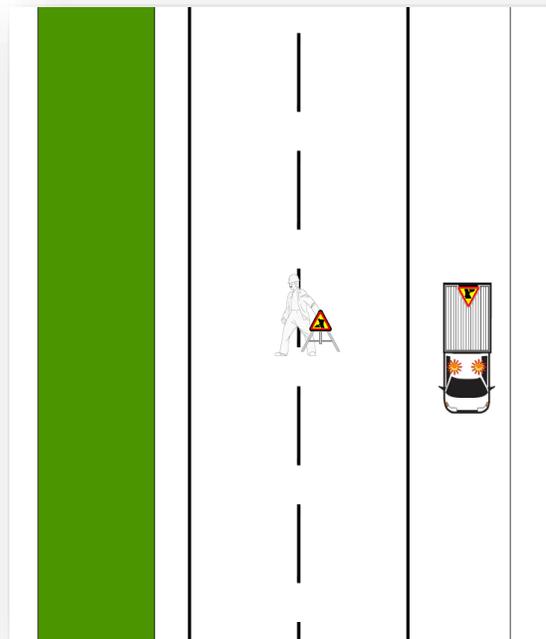


# Instalação e Levantamento da Sinalização Temporária

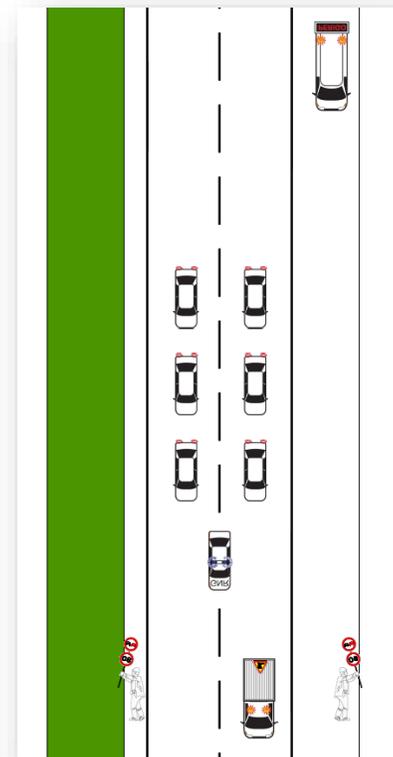
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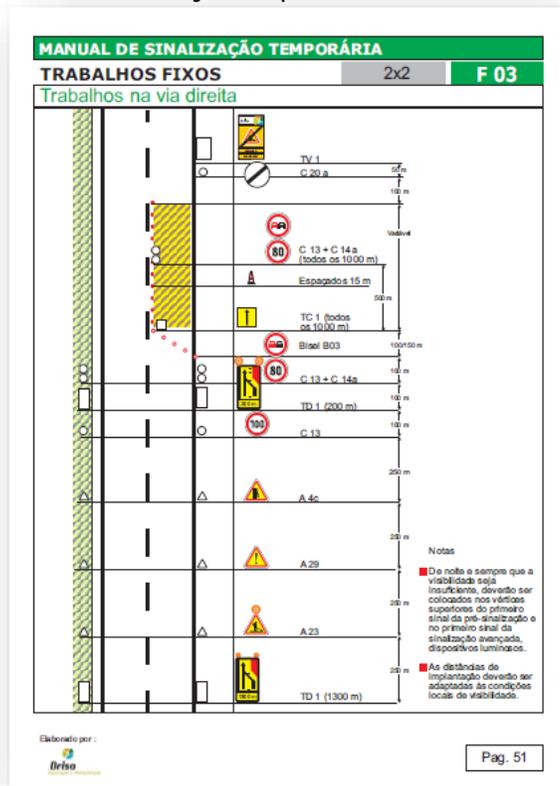
Redução de Abrandamentos de trânsito



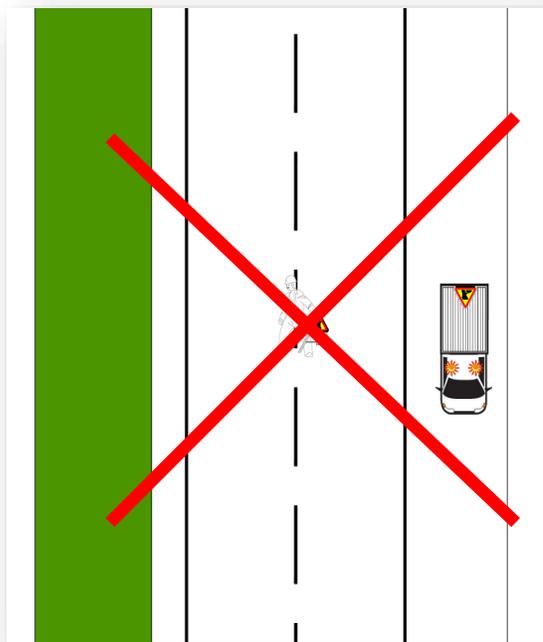
# Instalação e Levantamento da Sinalização Temporária

## Procedimentos - Presente

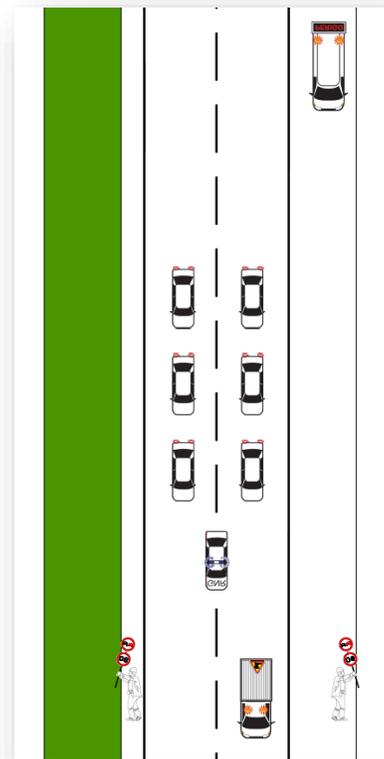
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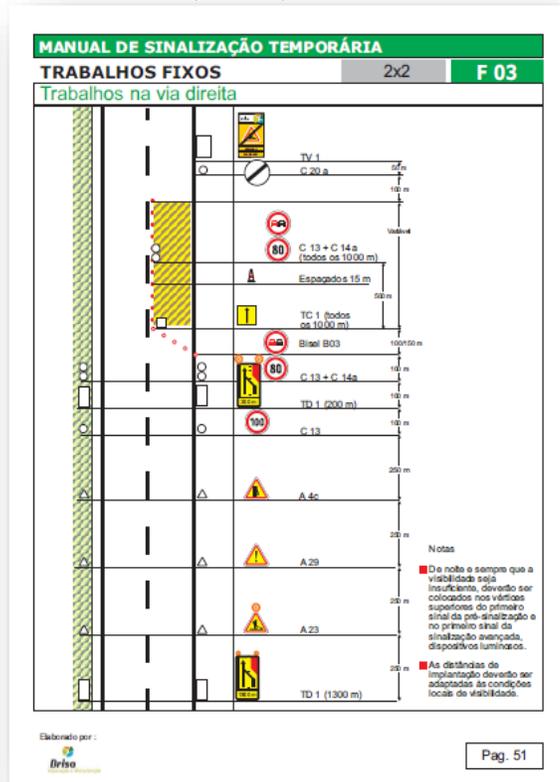
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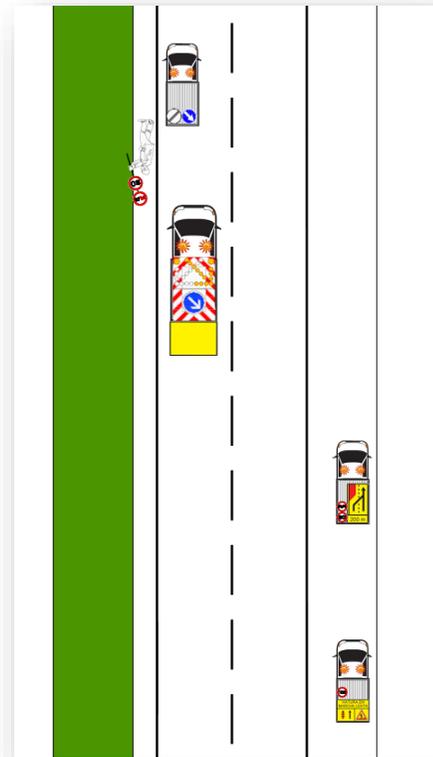
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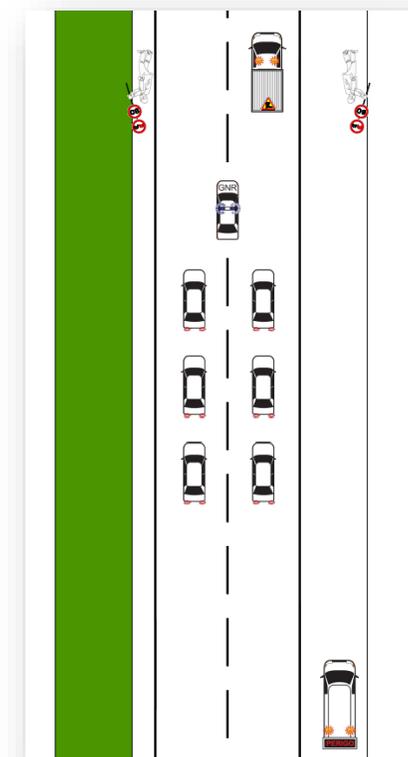
Esquemas do MST com sinalização apoiada no solo



Trabalhos Móveis



Abrandamentos de trânsito Pontuais



# Instalação e Levantamento da Sinalização Temporária

## Procedimentos - Presente

Onde estamos...

O que fazemos

### Procedimentos de trabalho

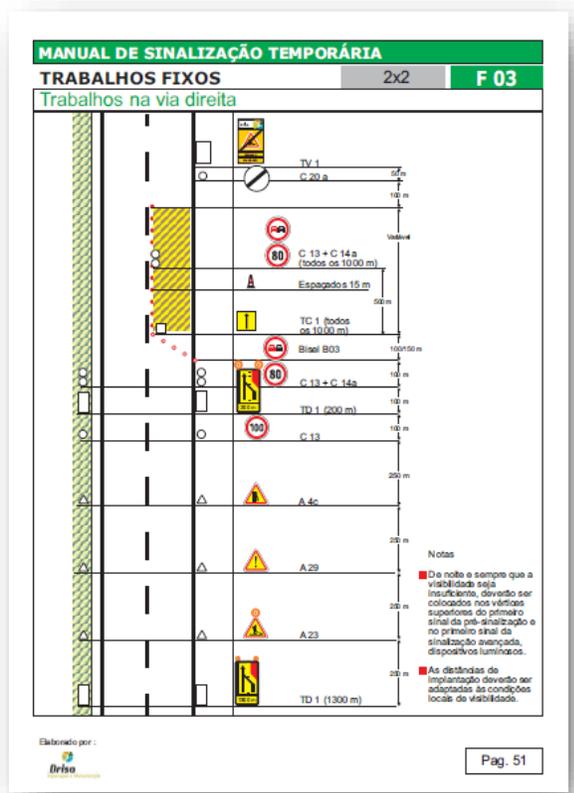
- Descrição do processo montagem / desmontagem
- Identificação de cada fase / ordem de execução
- Regulamentação a respeitar

### Peças desenhadas

- Sequência de montagem /desmontagem
- Indicações claras de distâncias, sinais...

### Constrangimentos vs Condições de aplicabilidade

- Visibilidade de 300m
- Berma direita que acomode as viaturas com a sinalização de aproximação
- Sequência de montagem



Document 1: Brisa logo and title page.

Document 2: Table of contents.

Document 3: Detailed diagram of the work zone with signs and distances.

Document 4: Additional diagram showing the work zone with signs and distances.

Document 5: Additional diagram showing the work zone with signs and distances.

Document 6: Additional diagram showing the work zone with signs and distances.

Document 7: Additional diagram showing the work zone with signs and distances.

Document 8: Additional diagram showing the work zone with signs and distances.

Document 9: Additional diagram showing the work zone with signs and distances.

Document 10: Additional diagram showing the work zone with signs and distances.

Document 11: Additional diagram showing the work zone with signs and distances.

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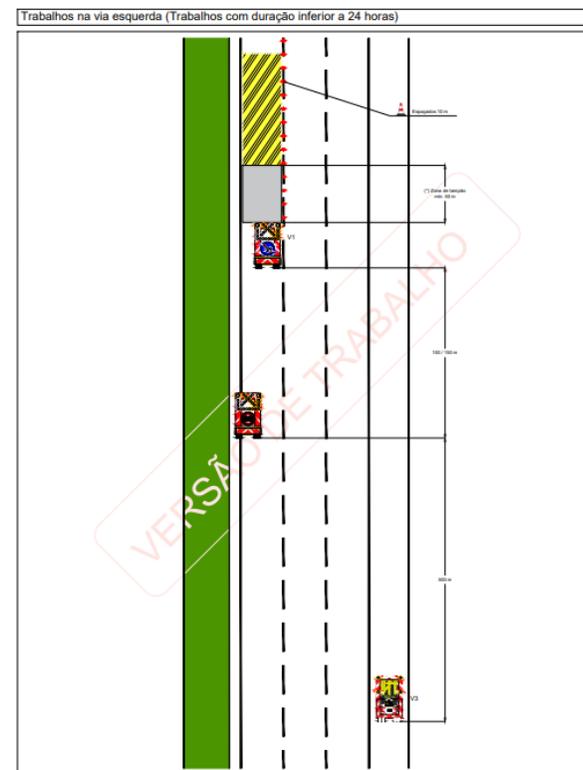
Document 99: Additional diagram showing the work zone with signs and distances.

Document 100: Additional diagram showing the work zone with signs and distances.

(x8)  
x2

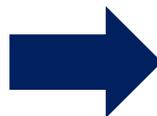
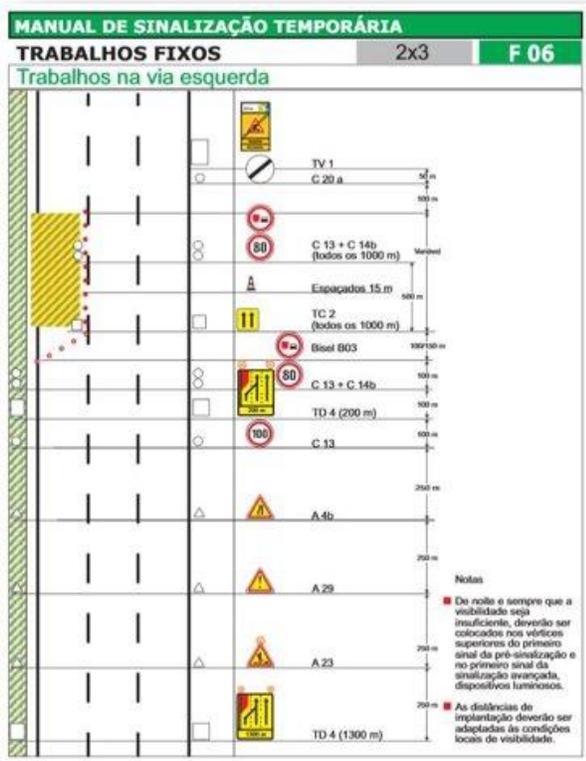
# Próximos Passos - Reduzir a exposição ao risco

## Novos Esquemas

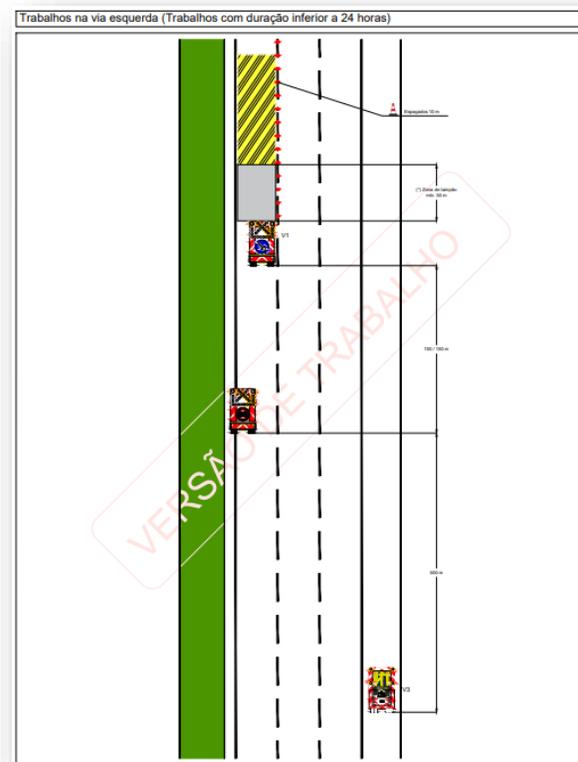


# Próximos Passos - Reduzir a exposição ao risco

Esquemas do MST com sinalização apoiada no solo



Esquemas com Sinalização Luminosa Transportável



# Próximos Passos - Reduzir a exposição ao risco

Próximos passos... para reduzir a exposição ao risco e aumentar a segurança rodoviária em zonas de trabalho

Reduzir a duração das restrições rodoviárias na plataforma da AE

Recurso a esquemas com Sinalização Luminosa Transportável

Implica alteração do RST/MST

Validação da ANSR/IMT



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# “Visão Zero 2030: A Estratégia de Segurança Rodoviária para a construção de um Sistema Seguro”

Com o apoio



Muito obrigado!

Com a Coordenação da ANSR